

EPA Superfund
Record of Decision:

NEWPORT DUMP
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OU 01
NEWPORT, KY
03/27/1987

NEWPORT DUMP SITE
CAMPBELL COUNTY, WILDER, KENTUCKY.

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DOCUMENTS REVIEWED:

- NEWPORT DUMP REMEDIAL INVESTIGATION
- NEWPORT DUMP FEASIBILITY STUDY
- NEWPORT DUMP ENDANGERMENT ASSESSMENT
- RESPONSIVENESS SUMMARY.

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DECLARATIONS:

THE SELECTED REMEDY IS CONSISTENT WITH THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (CERCLA), SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA)(PL 99-499, OCTOBER 17, 1986) AND THE NATIONAL CONTINGENCY PLAN (40 CFR PART 300). I HAVE DETERMINED THAT THE MONITORING, REGRADING, REVEGETATION AND LEACHATE COLLECTION AT THE NEWPORT DUMP SITE IS A COST-EFFECTIVE REMEDY AND PROVIDES ADEQUATE PROTECTION OF PUBLIC HEALTH, WELFARE, AND THE ENVIRONMENT. THE STATE OF KENTUCKY DEPARTMENT OF ENVIRONMENTAL PROTECTION HAS BEEN CONSULTED AND AGREES THAT THE APPROVED REMEDY MEETS APPLICABLE RELEVANT AND APPROPRIATE STATE STANDARDS AND REQUIREMENTS. FUTURE OPERATIONS AND MAINTENANCE ACTIVITIES TO ENSURE CONTINUED EFFECTIVENESS OF THE REMEDY, WILL BE CONSIDERED PART OF THE APPROVED ACTION AND PORTIONS THERE OF MAY BE ELIGIBLE FOR TRUST FUND MONIES FOR A PERIOD OF UP TO ONE YEAR.

I HAVE ALSO DETERMINED THAT THE ACTION BEING TAKEN IS APPROPRIATE WHEN BALANCED AGAINST THE AVAILABILITY OF TRUST FUND MONIES AT OTHER SITES. IN ADDITION, THE MONITORING, REGRADING AND LEACHATE COLLECTION IS MORE COST-EFFECTIVE THAN OTHER REMEDIAL ACTIONS AND IS NECESSARY TO PROTECT PUBLIC HEALTH, WELFARE AND THE ENVIRONMENT.

MARCH 27, 1987

DATE

JACK E. RAVAN
REGIONAL ADMINISTRATOR.

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SITE LOCATION AND DESCRIPTION

THE 39-ACRE FORMER MUNICIPAL LANDFILL IS LOCATED AT LATITUDE 30 DEGREES 3' 44" AND LONGITUDE 84 DEGREES 30' 17" IN THE CITY OF WILDER (POPULATION 633) IN CAMPBELL COUNTY, KENTUCKY (SEE FIGURE 1). THE CITY OF WILDER IS LOCATED ABOUT THREE MILES SOUTH OF THE CITY OF NEWPORT, A SUBURB OF CINCINNATI, OHIO.

THE MAIN ROAD LEADING TO THE SITE IS STATE ROAD 9. ACCESS TO THE SITE IS BY WAY OF BANKLICK ROAD, WHICH TERMINATES AT THE ENTRANCE OF THE LANDFILL. THE SITE IS BOUNDED ON THE WEST BY THE LICKING RIVER, A TRIBUTARY OF THE OHIO RIVER; ON THE NORTH BY A SMALL INDUSTRIAL PARK; ON THE EAST BY STEEP OUTCROPS AND STATE ROAD 9; AND ON THE SOUTH BY AN UNNAMED STREAM (SEE FIGURE 2).

THE NEWPORT DUMP SITE IS LOCATED ON THE LICKING RIVER, A TRIBUTARY OF THE OHIO RIVER. APPROXIMATELY 250 FEET DOWNSTREAM OF THE SITE ON THE OPPOSITE BANK OF THE RIVER IS THE MAIN RAW WATER INTAKE FOR THE KENTON COUNTY TAYLOR MILL WATER TREATMENT PLANT. THE WATER PLANT WITHDRAWS UP TO 18 MILLION GALLONS PER DAY (MGD) FROM THE LICKING RIVER AND SERVES ABOUT 75,000 CONSUMERS IN KENTON AND BOONE COUNTIES. AN UNNAMED STREAM FORMS THE SOUTHERN BOUNDARY OF THE LANDFILL AND DRAINS TO THE LICKING RIVER. FLOW IN THE STREAM IS INTERMITTENT, WITH THE GREATEST FLOW DURING PERIODS OF HIGH RUNOFF.

THE SITE IS UNDERLAIN BY UNCONSOLIDATED ALLUVIAL DEPOSITS. THE ALLUVIUM CONSISTS PRIMARILY OF CLAY, SILT, SAND, AND GRAVEL IN A DOWNWARD COARSENING SEQUENCE. THE THICKNESS OF THE UNCONSOLIDATED MATERIAL RANGES FROM 36 FEET AT THE EASTERN END OF THE LANDFILL TO ABOUT 110 FEET AT LICKING RIVER. BELOW THE ALLUVIAL DEPOSITS IS A SHALE AND LIMESTONE BEDROCK REPORTED TO BE UP TO 250 FEET THICK.

THE TOPOGRAPHY OF THE SITE CONSISTS OF TWO DISTINCT AREAS. THE LOWER RIVER TERRACE OCCUPIES THE AREAS ADJACENT TO THE RIVER AND IS FREQUENTLY FLOODED. THE SECOND LEVEL IS SEPARATED FROM THE LOWER TERRACE BY AN AREA OF STEEP SLOPES AND INCLUDES THE LANDFILLED PORTION OF THE SITE.

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SITE HISTORY

THE SITE WAS ORIGINALLY PURCHASED BY THE CITY OF NEWPORT IN THE LATE 1940'S AND WAS USED BY THE CITY FOR THE DISPOSAL OF RESIDENTIAL AND COMMERCIAL WASTES FROM ITS OPENING UNTIL ITS CLOSURE IN 1979. TRENCHING AND AREA FILLING OF THE WASTE WERE THE MOST COMMON METHODS USED TO DISPOSE OF WASTE AT THE SITE.

IN 1968, THE COMMONWEALTH OF KENTUCKY INSTITUTED PERMITTING REQUIREMENTS FOR LANDFILLS; AND AFTER BEING IN VIOLATION, THE CITY FINALLY RECEIVED A PERMIT IN LATE 1969 TO OPERATE THE SITE AS A MUNICIPAL SANITARY LANDFILL. THE SITE WAS CLOSED IN 1979 AND OWNERSHIP WAS TRANSFERRED TO THE NORTHERN KENTUCKY PORT AUTHORITY (NKPA) THE SAME YEAR.

DURING THE LIFE OF THE LANDFILL, THE CITY OF NEWPORT WAS CITED ON NUMEROUS OCCASIONS BY THE KENTUCKY DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION (KDNREP) AND OTHER STATE AGENCIES FOR PERMIT VIOLATIONS. THE MOST FREQUENT VIOLATIONS INCLUDED: OPEN BURNING AT THE LANDFILL, ABSENCE OF DAILY COVER, ONSITE PONDING OF WATER, UNCOVERED REFUSE, INADEQUATE SECURITY, PRESENCE OF LEACHATE, LACK OF PROPER SEEDING, AND EROSION PROBLEMS DUE TO LACK OF VEGETATION. IN ADDITION TO BEING CITED FOR OPERATIONAL VIOLATIONS, THE CITY HAS ALSO BEEN CITED FOR HANDLING HAZARDOUS WASTE WITHOUT A PERMIT.

DUE TO THE INADEQUATE MANAGEMENT OF THE LANDFILL, AN AGREED ORDER BETWEEN THE CITY OF NEWPORT AND THE KENTUCKY NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET (CABINET) TO PREPARE A

FINAL CLOSURE PLAN FOR THE SITE WAS ISSUED ON SEPTEMBER 26, 1978. THE FINAL CLOSURE PLAN, HOWEVER, WAS NEVER FULLY IMPLEMENTED AND OWNERSHIP OF THE LANDFILL WAS TRANSFERRED ON DECEMBER 28, 1979 TO THE NKPA WITH THE UNDERSTANDING THAT THE NKPA WOULD REMEDIATE THE SITE. DUE TO THE TRANSFER OF OWNERSHIP, THE NKPA WAS OBLIGATED TO PREPARE A FINAL CLOSURE PLAN. AN AGREED ORDER BETWEEN THE KENTUCKY CABINET AND NKPA WAS ISSUED ON JULY 9, 1980, FORMALLY REQUIRING THE NKPA TO PROPERLY CLOSE THE FORMER NEWPORT WASTE DISPOSAL FACILITY. IN AN EFFORT TO COMPLY WITH THE AGREED ORDER, THE NKPA INSTALLED A LEACHATE COLLECTION SYSTEM, REGRADED PORTIONS OF THE SITE, INSTALLED A CLAY CAP OVER THE WASTE, AND SEEDED THE AREA WITH GRASS.

LACK OF ADEQUATE FUNDING, HOWEVER, RESULTED IN THE NKPA NOT BEING ABLE TO FULLY IMPLEMENT THE JULY 9, 1980 AGREED ORDER. CITED VIOLATIONS AGAINST THE NKPA SINCE THE AGREED ORDER INCLUDE: LACK OF MAINTENANCE OF THE LEACHATE COLLECTION SYSTEM AND COLLECTION TANK, LACK OF VEGETATION AND EROSION OF PARTS OF LANDFILL, FAILURE TO INSTALL A METHANE GAS VENT SYSTEM, AND FAILURE TO CONDUCT A LEACHATE MONITORING PROGRAM. SITE INSPECTIONS BY KENTUCKY DNREP PERSONNEL DURING THE PARTIAL CLOSURE OF THE LANDFILL HAVE NOTED THE OCCURRENCE OF SEVERAL LEACHATE BREAKOUTS LEADING TOWARD THE LICKING RIVER.

SINCE THE NKPA DID NOT FULLY IMPLEMENT THE AGREED ORDER, A NEW AGREED ORDER WAS ENTERED INTO BY THE KENTUCKY CABINET AND THE NKPA ON OCTOBER 30, 1984. IN ACCORDANCE WITH THE REQUIREMENTS ESTABLISHED UNDER CERCLA, THE NEWPORT DUMP SITE WAS EVALUATED BY EPA IN 1982 UTILIZING THE HAZARD RANKING SYSTEM (HRS). THE HRS WAS USED TO EVALUATE THE RELATIVE RISK OR DANGER FACTORS EXISTING AT THE NEWPORT DUMP SITE, TAKING INTO ACCOUNT THE POPULATION AT RISK, THE HAZARDOUS POTENTIAL OF THE SUBSTANCES AT THE FACILITY, THE POTENTIAL FOR CONTAMINATION OF DRINKING WATER SUPPLIES, AND FOR DESTRUCTION OF SENSITIVE ECOSYSTEMS AND OTHER APPROPRIATE FACTORS.

THE NEWPORT DUMP SITE OVERALL HRS SCORE WAS 37.69, WHICH RANKED THE SITE NUMBER 359 IN GROUP 8 ON THE NATIONAL PRIORITIES LIST (NPL). THE SITE RECEIVED THIS RANKING DUE TO THE CLOSE PROXIMITY OF THE KENTON COUNTY DISTRICT ONE RAW WATER INTAKE LOCATED APPROXIMATELY 250 FEET DOWNSTREAM FROM THE SITE ON THE LICKING RIVER, THE OBSERVED RELEASE OF LEACHATE TO LICKING RIVER, AND THE PRESENCE OF ELEVATED CONCENTRATIONS OF LEAD, CHROMIUM, AND PCBS IN LEACHATE SAMPLES.

THE REMEDIAL ACTION MASTER PLAN (RAMP) WAS DEVELOPED BY CAMP, DRESSER, AND MCKEE, INC., ET AL., IN 1983 AND NUS BEGAN THE RI/FS IN 1985.

NUS COMPLETED THE RI SITE INVESTIGATION IN MARCH 1986, AND SUBMITTED A DRAFT RI/FS REPORT IN NOVEMBER 1986. THE RI ASSESSED THE NATURE AND EXTENT OF ONSITE AND OFFSITE CONTAMINATION, AND EVALUATED HAZARDS TO HUMAN HEALTH AND THE ENVIRONMENT. THE GOALS OF THE DATA COLLECTION ACTIVITIES WERE:

- LOCATION OF APPROXIMATE FILL BOUNDARIES THROUGH THE APPLICATION OF GEOPHYSICAL TECHNIQUES
- ASSESSMENT OF THE LEVELS OF GROUNDWATER CONTAMINANTS AND POTENTIAL PATHWAYS IN THE ALLUVIAL AQUIFER
- DETERMINATION OF LEVELS OF CONTAMINANTS IN SURFACE AND SUBSURFACE SOILS
- DETERMINATION OF LEVELS OF CONTAMINANTS IN THE LICKING RIVER AND AN UNNAMED STREAM SOUTH OF THE SITE AND THE POTENTIAL FOR CONTAMINATION OF SURFACE WATER AT THE RAW WATER INTAKE
- EVALUATION OF THE EFFECT OF LEACHATE ON AQUATIC ORGANISMS.

THE MAJOR CONCERN AT THE SITE WAS LEACHATE MIGRATION TO NEARBY SURFACE WATER BODIES. THESE SURFACE WATER BODIES INCLUDE THE UNNAMED STREAM FORMING THE SOUTHERN BORDER OF THE SITE AND THE LICKING RIVER, A TRIBUTARY OF THE OHIO RIVER, BORDERING THE WESTERN EDGE OF THE SITE. THE SURFACE WATER CONTAMINANT MIGRATION PATHWAY WAS EXAMINED BY COLLECTING SURFACE WATER AND SEDIMENT SAMPLES AT SIX LOCATIONS IN THE UNNAMED STREAM AND FIVE NEARSHORE LOCATIONS IN THE LICKING RIVER. MANY OF THESE SAMPLING POINTS WERE ALSO PAIRED WITH SHALLOW GROUNDWATER SAMPLING POINTS TO EVALUATE THE POTENTIAL GROUNDWATER CONTRIBUTION TO SURFACE WATER. DETAILS OF THE REMEDIAL SITE INVESTIGATION AND LABORATORY ANALYSES ARE DOCUMENTED IN THE RI REPORT.

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CURRENT SITE STATUS

THE APPROXIMATE BOUNDARY OF WASTE MATERIALS ENCOMPASSES AN AREA OF 32.2 OF THE 39 ACRES THAT FORM THE SITE. BASED ON DISPOSAL PRACTICES, THIS AREA HAS BEEN SEPARATED INTO AN EASTERN AND WESTERN SECTION, BROKEN BY THE LOCATION OF THE CULVERT TRAVERSING THE SITE. SINCE THE MAJORITY OF THE LANDFILLING OPERATIONS ARE CONDUCTED IN THE WESTERN SECTION, THE BULK OF THE WASTES AND CONTAMINATED SOIL LIES WITHIN THIS AREA.

ROUGH ESTIMATES OF THE VOLUME OF CONTAMINATED MATERIAL SUGGEST THAT APPROXIMATELY 1,078,000 CUBIC YARDS OF WASTE MAY EXIST AND THAT 60 PERCENT OF THIS MATERIAL IS CONSTRUCTION RUBBLE, SCRAP METAL, AND TIRES.

INVESTIGATIONS CONDUCTED DURING THE RI INDICATED THAT THE NATURAL MATERIALS BENEATH THE LANDFILL CONSIST PREDOMINANTLY OF LOW-PERMEABILITY CLAYS. CALCULATIONS BASED ON DATA COLLECTED DURING THE RI SUGGEST THAT THE HORIZONTAL GROUNDWATER FLOW VELOCITY IS 4.4 FEET PER YEAR, WHILE THE VERTICAL FLOW VELOCITY IS ONLY 0.05 FEET PER YEAR.

THE THICKNESS OF THE ALLUVIAL AQUIFER AT THE SITE VARIES BETWEEN 37 AND 68 FEET AND THINS TOWARD THE VALLEY WALLS. SAMPLES OF THE DEEPER GROUNDWATER, COLLECTED DURING THE RI FROM MONITORING WELLS SET DIRECTLY ABOVE BEDROCK, CONTAINED NO SIGNIFICANT LEVELS OF CONTAMINATION. SAMPLES OF THE SHALLOW GROUNDWATER BENEATH THE SITE CONTAINED METALS, SOLVENTS, AND PAHS. THE SHALLOW GROUNDWATER IS EXPECTED TO BE RELEASED AS LEACHATE SEEPS OR AS GROUNDWATER DISCHARGE TO LICKING RIVER.

THE PRESENCE OF LEACHATE SEEPS HAS BEEN NOTED THROUGHOUT THE LIFE OF THE LANDFILL. EARLY ATTEMPTS TO CONTROL THE DISCHARGE OF LEACHATE TO LICKING RIVER AND THE UNNAMED STREAM RESULTED IN THE CONSTRUCTION OF COLLECTION TRENCHES OR BERMS ON THE WEST AND SOUTH LANDFILL SLOPES. MOST OF THE EFFECTS OF THE PAST RELEASE OF LEACHATE HAVE BEEN ELIMINATED AS A RESULT OF THE REGRADING AND CAPPING PERFORMED BY THE NKPA DURING CLOSURE; BUT THE EARLY COLLECTION TRENCH ALONG LICKING RIVER REMAINS.

THE NKPA ALSO INSTALLED A LEACHATE COLLECTION SYSTEM ON THE WEST AND SOUTH BANKS OF THE LANDFILL DURING THE CLOSURE ACTIVITIES. HOWEVER, THIS SYSTEM IS NOT WORKING PROPERLY EITHER DUE TO CLOGGING OR COLLAPSE AS A RESULT OF SUBSIDENCE OF THE WASTE MATERIAL. IN ADDITION, THE NKPA CLOSURE ACTIVITIES DID NOT ADDRESS THE STEEP BANKS ALONG THE NORTH SLOPE OF THE LANDFILL JUST EAST OF THE CERAMIC COATING COMPANY. THIS AREA IS HEAVILY VEGETATED, WITH EROSION GULLIES AND NUMEROUS ACTIVE LEACHATE SEEPS.

SHALLOW GROUNDWATER, NOT RELEASED AS LEACHATE SEEPS, IS EXPECTED TO DISCHARGE DIRECTLY TO THE LICKING RIVER. AS PART OF THE RI, THE GROUNDWATER DILUTION RATE IN THE LICKING RIVER WAS CALCULATED TO BE OVER 40,000 TO 1 EVEN UNDER THE LOWEST FLOW RATE AVAILABLE FOR THE RIVER. SINCE A SURFACE WATER INTAKE FOR THE KENTON COUNTY WATER DISTRICT IS LOCATED 250 FEET DOWNSTREAM OF THE SITE, SURFACE WATER AND SEDIMENT SAMPLES WERE COLLECTED FROM THE UNNAMED STREAM AND THE LICKING RIVER AS WELL AS TWO WATER SAMPLES FROM THE INTAKE.

THE RESULTS OF THE CHEMICAL ANALYSES INDICATED THAT THE LEVELS OF CONTAMINANTS IN THE WATER WITHDRAWN FROM THE INTAKE WERE BELOW ALL ACCEPTED DRINKING WATER CRITERIA, AND THAT SITE CONTAMINANTS DID NOT APPEAR TO HAVE ANY AFFECT ON THE QUALITY OF THE WATER IN LICKING RIVER.

THE MAIN RECEPTORS FOR CONTAMINANT RELEASES FROM THE SITE ARE THE 75,000 RESIDENTS SERVED BY THE KENTON COUNTY WATER INTAKE. APPROXIMATELY, 1,200 INDIVIDUALS LIVE WITHIN A ONE-MILE RADIUS OF THE SITE, BUT NO PRIVATE OR PUBLIC DRINKING WATER WELLS WERE FOUND WITHIN THIS AREA. THE POTENTIAL RECEPTORS INCLUDE THOSE EATING FISH CAUGHT FOR RECREATION FROM THE LICKING RIVER. PUBLIC ACCESS TO THE SITE IS CURRENTLY UNCONTROLLED; HOWEVER, THERE DOES NOT APPEAR TO BE ANY RECREATIONAL USE OF THE SITE.

THE PUBLIC HEALTH EVALUATION PERFORMED DURING THE RI FOUND NO EVIDENCE OF ANY CURRENT PUBLIC HEALTH OR ENVIRONMENTAL CONCERNS ASSOCIATED WITH THE NEWPORT DUMP SITE.

THE CONTAMINANT LEVELS IN THE SURFACE SOILS AND IN SURFACE WATER AND SEDIMENT DOWNSTREAM OF THE SITE WERE BELOW ALL ACCEPTED HEALTH CRITERIA; WHILE DILUTION OF SHALLOW GROUNDWATER CONTAMINANTS AS A RESULT OF DISCHARGE TO THE LICKING RIVER IS EXPECTED TO REDUCE THESE CONTAMINANTS TO NEGLIGIBLE LEVELS.

FLOOD POTENTIAL

FOLLOWING MAJOR FLOODS, THE ARMY CORPS OF ENGINEERS MEASURES THE ELEVATIONS OF HIGH WATER MARKS AT VARIOUS POINTS ALONG THE RIVER. INTERPOLATING FROM KNOWN ELEVATIONS, THE PROJECTED HIGH WATER MARKS ON THE LICKING RIVER, DATING TO AT LEAST 1875, ARE AS FOLLOWS (ARMY CORPS OF ENGINEERS, 1986B):

FLOOD	ELEVATION (FT AMSL)
JANUARY 1937	511
MARCH 1964	500.5
APRIL 1948	495
MAY 1961	491.

CHANNEL VELOCITIES DURING FLOODS ARE ON THE ORDER OF FIVE FEET PER SECOND, WITH LOCAL VELOCITIES OF EIGHT FEET PER SECOND. HAVING NEVER INSPECTED THE STUDY AREAS, AND BECAUSE THE POTENTIAL FOR EROSION IS SITE-SPECIFIC, THE ARMY CORPS OF ENGINEERS OFFERS NO RECOMMENDATIONS CONCERNING THE EROSION POTENTIAL OF THE RIVERBANK NEAR THE SITE.

FLOODING NEAR THE STUDY AREA IS INCREASED BY BACKWATER FLOODING FROM THE OHIO RIVER. THEREFORE, THE SITE BENEFITS FROM FLOOD REDUCTIONS ON THE OHIO RIVER DUE TO OPERATION OF 52 FLOOD CONTROL RESERVOIRS ON THE OHIO RIVER TRIBUTARIES UPSTREAM FROM THE LICKING RIVER.

FLOODING OF THE LICKING RIVER IS ALSO REDUCED BY OPERATION OF THE CAVE RUN FLOOD CONTROL LAKE, COMPLETED IN 1975, WHICH REGULATES A DRAINAGE BASIN OF 826 SQUARE MILES. THE ARMY CORPS OF ENGINEERS (1986) FLOOD ELEVATIONS WERE USED TO ILLUSTRATE THE AREAS OF THE SITE EXPECTED TO BE INUNDATED BY THE 500-, 100-, 50-, AND 10-YEAR FLOODWATERS. THESE AREAS ARE SHOWN IN FIGURES 3 THROUGH 6, RESPECTIVELY.

NATURE AND EXTENT OF THE PROBLEM

AS SPECIFIED IN THE NATIONAL CONTINGENCY PLAN (NCP), THE RI WAS DESIGNED TO DEFINE THE NATURE AND EXTENT OF THE THREAT TO PUBLIC HEALTH AND THE ENVIRONMENT PRESENTED BY THE RELEASE OF HAZARDOUS SUBSTANCES AT OR NEAR THE NEWPORT DUMP SITE. TO ACCOMPLISH THIS GOAL, WASTE AND SOIL SAMPLES WERE COLLECTED FROM SEVERAL LOCATIONS ON OR NEAR THE LANDFILL. ALL SAMPLES WERE

ANALYZED FOR THE HAZARDOUS SUBSTANCE LIST (HSL) OF CONTAMINANTS, HOWEVER, ONLY THE SPECIFIC COMPOUNDS DETECTED AT LEAST ONCE IN THEIR RESPECTIVE MEDIA ARE PRESENTED IN THE TABLES. BASED ON THE RESULTS OF THESE ANALYSES, AN ATTEMPT WAS MADE TO CHARACTERIZE THE TYPES AND LEVELS OF CONTAMINANTS IN THE WASTE AND LEACHATE TO DETERMINE WHETHER MIGRATION OF SITE-LINKED CONTAMINANTS HAS OCCURRED OR IS LIKELY TO OCCUR.

THE RESULTS OF THE CHEMICAL ANALYSES OF WASTE AND SOIL SAMPLES ARE PRESENTED IN THIS SECTION. SAMPLE CODE DESCRIPTIONS AND FIELD MEASUREMENT DATA (PH, SPECIFIC CONDUCTANCE, AND TEMPERATURE) FOR ALL SAMPLES COLLECTED DURING THE INVESTIGATION MAY BE FOUND IN APPENDIX D OF THE RI/FS DOCUMENT.

WASTE SOURCE

DURING THE RI, SAMPLES OF THE WASTE MATERIAL WERE COLLECTED AND ANALYZED TO DETERMINE THE CHEMICAL CHARACTERISTICS OF THE WASTE. THE WASTE MATERIAL IMMEDIATELY BENEATH THE CLAY CAP AND THE SUBSURFACE SOIL BELOW THE WASTE WERE SAMPLED AT FOUR BOREHOLE LOCATIONS WITHIN THE LANDFILL. THE FOUR ONSITE AND ONE OFFSITE BOREHOLE LOCATIONS ARE SHOWN ON FIGURE 7, AND THE CHEMICAL CHARACTERISTICS OF THE WASTE ARE SHOWN IN TABLES 2 AND 3.

DATA HAVE BEEN COMBINED WITH THE DATA FROM PREVIOUS STUDIES AND THE WASTE THICKNESS AT EACH LOCATION IS SHOWN ON FIGURE 8. THE AVAILABLE WASTE THICKNESS SHOWN IN FIGURE 8 SUPPORT THE CURRENT UNDERSTANDING THAT THE DEPTH OF FILL IS EXTREMELY VARIED THROUGHOUT THE SITE. SINCE AN APPROXIMATE VOLUME OF WASTE IS NECESSARY FOR COSTING PURPOSES, THE KNOWN DEPTHS OF WASTE WERE USED TO PROVIDE AN AVERAGE WASTE THICKNESS FOR EACH SECTION OF THE LANDFILL. THE ESTIMATED TOTAL WASTE VOLUME IS 1,078,000, BASED ON 118,000 CUBIC YARDS IN THE EASTERN SECTION PLUS 960,000 CUBIC YARDS IN THE WESTERN SECTION. THIS VOLUME OF WASTE SHOULD BE CONSIDERED AS ONLY AN APPROXIMATION SINCE THE ACTUAL WASTE VOLUME AT THE SITE IS UNKNOWN.

WASTE COMPOSITION

THE WASTE SAMPLES COLLECTED BENEATH THE CAP (SS-2A, SS-3A AND SS-4A) CONTAINED A WIDE VARIETY OF INORGANIC AND ORGANIC CONTAMINANTS. THE MOST COMMON CONSTITUENTS CONSISTED OF METALS, PAHS, VARIOUS SOLVENTS, AND PCBS. THE HIGHEST CONCENTRATIONS WERE FOUND IN SAMPLES COLLECTED FROM BOREHOLES SS-3 AND SS-4, WEST OF THE CULVERT. PCBS AND DDD WERE THE ONLY CHLORINATE HYDROCARBONS DETECTED IN THE WASTE MATERIAL, AND THEY WERE ONLY OBSERVED IN THE WASTE SAMPLE (SS-3A) COLLECTED JUST WEST OF THE CULVERT. BOREHOLE SAMPLES TAKEN BELOW THE WASTE MATERIAL EVIDENCED NO SIGNIFICANT LEVELS OF CONTAMINATION. IT IS REASONABLE TO ASSUME THAT VERY LITTLE DOWNWARD MIGRATION OF CONTAMINANTS HAS OCCURRED.

ADDITIONALLY, NO SIGNIFICANT CONTAMINANT LEVELS WERE DETECTED IN THE OFFSITE SUBSURFACE SOILS BUT A LOW LEVEL OF TOLUENE WAS DETECTED NEAR THE CERAMIC COATING COMPANY. THIS INDICATES THAT THE SITE CONTAMINANTS HAVE NOT MIGRATED SIGNIFICANTLY IN THE SUBSURFACE SOILS.

GROUNDWATER CONTAMINATION

A SUBSURFACE INVESTIGATION WAS DESIGNED AND IMPLEMENTED AS PART OF THE RI FOR THE NEWPORT DUMP SITE. THE DESIGN OF THE INVESTIGATION INCLUDED THE COMPLETION OF 14 SOIL BORINGS WITH THE INSTALLATION OF 8 MONITORING WELLS AND 3 PIEZOMETERS IN SOME OF THE BOREHOLES (SEE FIGURE 9).

NINE TEMPORARY WELL POINTS WERE INSTALLED OUTSIDE THE WASTE BOUNDARY OF THE LANDFILL. THE WELL POINTS WERE PRIMARILY LOCATED ALONG THE LICKING RIVER AND THE UNNAMED STREAM WITH AN ADDITIONAL TWO WELL POINTS LOCATED NORTH OF THE LANDFILL, AS SHOWN IN FIGURE 10. WELL POINTS WERE DESIGNED TO DETECT LEACHATE PRODUCTION IN SHALLOW GROUNDWATER ALONG THE BANK OF THE LICKING RIVER.

IN GENERAL, THE ALLUVIUM AT THE SITE CAN BE DESCRIBED AS PREDOMINANTLY A SILTY CLAY WITH SAND OCCURRING AT GREATER DEPTHS AND RANGING IN COLOR FROM YELLOWISH-BROWN TO GRAY. THE THICKNESS OF THE ALLUVIUM VARIES FROM 36 TO 110 FEET AND THINS TOWARD THE VALLEY WALLS WHERE BEDROCK EVENTUALLY OUTCROPS. NOTE FIGURE 11 FOR A TYPICAL CROSS-SECTION OF THE SUBSURFACE ENVIRONMENT AND FIGURE 12 FOR THE GROUNDWATER FLOW OF THE ALLUVIAL AQUIFER (HORIZONTAL GROUNDWATER VELOCITY = 4.4 FT/YR., VERTICAL GROUNDWATER VELOCITY = .05 FT/YR, LICKING RIVER DILUTION RATE = 40,000 TO 1).

NATURE AND EXTENT OF GROUNDWATER CONTAMINATION

THE DISTRIBUTION AND CONCENTRATIONS OF GROUNDWATER CONTAMINANTS WERE EVALUATED TO DETERMINE THE NATURE AND EXTENT OF GROUNDWATER CONTAMINATION AT THE SITE. THE DISTRIBUTION OF THESE CONTAMINANTS IS SHOWN IN FIGURE 13 SUMMARY OF THE CONTAMINATION IS PRESENTED IN TABLES 4 AND 5. (PLEASE NOTE, THE TABLE LIST CONCENTRATIONS OF THE INDICATOR CHEMICALS ONLY.). IN GENERAL, THE DEEPER GROUNDWATER AT THE SITE HAS SHOWN ONLY LOW LEVELS OF SITE RELATED CONTAMINANTS, PRIMARILY NEAR THE CULVERT. NO SIGNIFICANT LEVELS OF CONTAMINANTS WERE DETECTED IN THE DEEPER GROUNDWATER OFFSITE IN THE FLOODPLAIN. HOWEVER, THE SHALLOW ONSITE GROUNDWATER BOTH IMMEDIATELY BELOW THE WASTE AND AT THE BANKS OF THE LICKING RIVER AND UNNAMED STREAM CONTAINED SIGNIFICANT LEVELS OF INORGANIC CONTAMINANTS.

SHALLOW GROUNDWATER SAMPLES COLLECTED FROM FOUR WELLPOINTS INSTALLED ALONG THE WEST BANK OF THE SITE ADJACENT TO THE LICKING RIVER WERE EVALUATED TO DETERMINE THE POTENTIAL LEACHATE CONTRIBUTION TO THE RIVER. ADDITIONALLY, ONE WELLPOINT WAS INSTALLED ALONG THE NORTH BANK OF THE LANDFILL IN ORDER TO MONITOR POTENTIAL LEACHATE MIGRATION TO THE FLOODPLAIN NORTH OF THE SITE. NUMEROUS INORGANIC CONTAMINANTS WERE OBSERVED IN ALL SHALLOW GROUNDWATER SAMPLES (WP-8, WP-2, WP-3, AND WP-4) WITH THE SAMPLE FROM WP-3 NEAR THE CENTER OF THE LANDFILL CONTAINING THE GREATEST NUMBER AND THE HIGHEST CONCENTRATIONS. NO CONTAMINANTS WERE DETECTED IN THE SHALLOW GROUNDWATER SAMPLE (WP-1) FROM THE WELLPOINT NORTH OF THE SITE.

NATURE AND EXTENT OF SURFACE WATER AND SEDIMENT CONTAMINATION

THE DISTRIBUTION AND CONCENTRATIONS OF SURFACE WATER AND SEDIMENT CONTAMINANTS WERE EVALUATED TO DETERMINE THE NATURE AND EXTENT OF SURFACE WATER AND SEDIMENT CONTAMINATION AT THE SITE. INDIVIDUAL SAMPLES WERE COMPARED TO THE APPROPRIATE CONTROL SAMPLES TO DETERMINE WHERE CONCENTRATIONS WERE ELEVATED FOR SPECIFIC SITE-RELATED CONTAMINANTS. THE DISTRIBUTION OF THESE CONTAMINANTS IS SHOWN IN FIGURE 14 AND A SUMMARY OF THE CONTAMINATION IS PRESENTED IN TABLE 4, 5 AND 6.

IN GENERAL, ONLY LOW LEVELS OF INORGANIC CONTAMINANTS WERE DETECTED IN THE SURFACE WATER AND SEDIMENT SAMPLES COLLECTED FROM THE UNNAMED STREAM; HOWEVER, TOLUENE WAS DETECTED IN THE SURFACE WATER AT THE DISCHARGE FROM THE CULVERT AND PAHS WERE DETECTED IN THE SEDIMENT AT THE MOUTH OF THE STREAM. NO SITE-RELATED CONTAMINANTS WERE DETECTED IN THE SEDIMENT AT THE MOUTH OR THE STREAM. NO SITE-RELATED CONTAMINANTS WERE DETECTED IN THE SURFACE WATER IN LICKING RIVER AND THE WATER INTAKE; AND LOW LEVELS OF ARSENIC AND COPPER IN SAMPLES COLLECTED AT THE DOWNSTREAM BOUNDARY OF THE SITE WERE THE ONLY SITE-RELATED CONTAMINANTS IN THE SEDIMENTS.

NATURE AND EXTENT OF SOIL CONTAMINATION

THE DISTRIBUTION AND CONCENTRATIONS OF SOIL CONTAMINANTS WERE EVALUATED TO DETERMINE THE NATURE AND EXTENT OF SOIL CONTAMINATION AT THE SITE. INDIVIDUAL SOIL SAMPLE ANALYSES WERE COMPARED TO THE APPROPRIATE BACKGROUND OR CONTROL ANALYSES TO DETERMINE WHERE CONCENTRATIONS WERE ELEVATED FOR SPECIFIC SITE-RELATED CONTAMINANTS. THE DISTRIBUTION OF THESE CONTAMINANTS IS SHOWN IN FIGURE 15 AND RESULTS PRESENTED IN TABLES 4 AND 6. IN GENERAL, IT APPEARS THAT THE SURFACE SOIL AT THE WESTERN BANK ALONG THE LICKING RIVER AND AT THE STEEP NORTHERN BANK NEAR THE RAVINE ARE

THE ONLY SURFACE SOIL AREAS CONTAINING CONCENTRATION OF SITE-RELATED CONTAMINANTS.

BIOTA INVESTIGATION SUMMARY

A LIMITED ACUTE AND CHRONIC STATIC BIOASSAY WAS CONDUCTED DURING THE RI USING WATER COLLECTED FROM THE DRAINAGE CULVERT THAT BISECTS THE SITE. THE TEST ORGANISMS WERE THE TATHEAD MINNOW AND DAPHNIA. THE WATER WAS NOT FOUND TO BE ACUTELY TOXIC TO EITHER TEST ORGANISM AND REPRODUCTION WAS NOT REPAIRED IN THE DAPHNIA.

NO SPECIES ON THE FEDERALLY ENDANGERED OR THREATENED SPECIES LIST HAVE BEEN OBSERVED AT THE SITE.

PUBLIC HEALTH AND ENVIRONMENTAL ASSESSMENT

THROUGH A SELECTION PROCESS OUTLINED IN THE DRAFT SUPERFUND PUBLIC HEALTH EVALUATION MANUAL, SEVERAL INDICATOR CHEMICALS WERE CHOSEN FROM THE SAMPLE ANALYSIS RESULTS TO REPRESENT THE CHEMICALS POSING THE GREATEST HEALTH CONCERN. THIS SELECTION PROCESS WAS INTENDED TO SIMPLIFY THE DATA EVALUATION WITHOUT SERIOUSLY COMPROMISING THE VALIDITY OF THE CONCLUSIONS WHICH WERE DRAWN. THE PROCEDURES EMPLOYED IN THE INDICATOR CHEMICAL SELECTION PROCESS ARE DESCRIBED IN APPENDIX L OF THE RI REPORT AND THE RESULTING INDICATOR CHEMICALS INCLUDE THE FOLLOWING CONTAMINANTS:

- ARSENIC
- BARIUM
- CHROMIUM
- NICKEL
- BENZO(A)PYRENE
- TOLUENE
- POLYCHLORINATED BIOPHENYLS.

TRANSPORT MEDIA

CONTAMINANT MIGRATION IS DEPENDENT ON THE PHYSIOCHEMICAL CHARACTERISTICS OF THE CONTAMINANT COMBINED WITH THE SPECIFIC MIGRATION PATHWAYS EXISTING AT THE SITE. THE EVALUATION OF CONTAMINANT TRANSPORT IN EACH MEDIUM, BASED ON THE DATA COLLECTED DURING THE RI, IDENTIFIED THE MIGRATION PATHWAYS AND FORMED THE BASIS FOR THE EVALUATION OF POTENTIAL ROUTES OF HUMAN EXPOSURE.

THE WASTE MATERIAL SAMPLED BENEATH THE CLAY CAP AT THE NEWPORT DUMP SITE CONTAINED A WIDE ARRAY OF CHEMICAL CONTAMINANTS. THE CHEMICAL GROUPS INCLUDED METALS, ORGANIC SOLVENTS, POLYCYCLIC AROMATIC HYDROCARBONS AND CHLORINATED HYDROCARBONS.

THE CHLORINATED HYDROCARBONS FOUND IN THE WASTE MATERIAL (SS-3A) INCLUDED PCB-1242, PCB-1260, AND 4,4'-DDD. THESE CONTAMINANTS WOULD BE EXPECTED TO REMAIN IN PLACE WITH LITTLE POTENTIAL FOR MIGRATION DUE PRIMARILY TO THEIR HYDROPHOBIC NATURE AND ADSORPTION TO THE SUBSURFACE SOILS OR WASTE MATERIAL. ALSO, THEY WOULD BE EXPECTED TO REMAIN ESSENTIALLY UNAFFECTED BY BIODEGRADATION. DURING THE RI, NO PCBs OR 4,4'-DDD WERE DETECTED IN THE SUBSURFACE SOIL BENEATH THE FILL MATERIAL OR GROUNDWATER BENEATH THE SITE. THE WIDE VARIETY OF PAHS FOUND IN THE WASTE MATERIAL, PRIMARILY IN THE AREA WEST OF THE CULVERT (SS-3A), HAVE VARYING PHYSICAL CHARACTERISTICS WHICH AFFECT THEIR ENVIRONMENTAL FATE. THE LOWER MOLECULAR WEIGHT PAHS (LESS AROMATIC RINGS) SUCH AS NAPHTHALENE AND PYRENE, HAVE HIGHER VAPOR PRESSURES, HIGHER WATER SOLUBILITIES, AND ARE SUBJECT TO GREATER BIODEGRADATION THAN THE HEAVIER PAHS (BENZO(A)PYRENE AND BENZO(GHI)PYRENE). IN GENERAL, METALS SUCH AS ARSENIC, BARIUM, CHROMIUM, AND NICKEL WOULD NOT BE EXPECTED TO MIGRATE SIGNIFICANT DISTANCES IN PREDOMINATELY CLAY SUBSURFACE SOILS.

HOWEVER, THE SILTY CLAY SOILS AT THE SITE HAVE LOW CATION EXCHANGE CAPACITY (CEC) VALUES WHICH ARE NOT CONDUCIVE FOR ATTENUATING THESE METALS. THEREFORE, THE METALS WOULD BE EXPECTED TO MIGRATE, TO SOME DEGREE, WITH THE GROUNDWATER. SINCE THE PREDOMINANT GROUNDWATER FLOW DIRECTION AT THE SITE IS HORIZONTAL RATHER THAN VERTICAL, THE MAJORITY OF THESE CONTAMINANTS SHOULD BE EVIDENT IN THE SHALLOW GROUNDWATER AND LEACHATE BREAKOUTS. AS WOULD BE EXPECTED AT THE SITE, ELEVATED METAL LEVELS WERE OBSERVED IN SHALLOW GROUNDWATER AND IN LEACHATE SAMPLES. THE DEEPER GROUNDWATER, HOWEVER, SHOWED ONLY SPORADIC INCREASES IN METAL LEVELS.

COMPOUNDS SUCH AS BENZENE AND TOLUENE WHICH WERE FOUND IN THE WASTE MATERIAL (SS-3A AND S-4A), ARE VERY VOLATILE, SOLUBLE, AND CAN BE BIODEGRADED. UNDER THE CONDITIONS AT THE SITE, THEY WOULD BE EXPECTED TO MIGRATE IN THE GROUNDWATER AND IN THE SUBSURFACE SOILS.

TOLUENE WAS DETECTED DURING THE RI IN THE SUBSURFACE SOILS BENEATH THE WASTE (SS-4B) AND IN OFFSITE SUBSURFACE SOILS (SS-1, SS-6, AND SS-7). ADDITIONALLY, TOLUENE WAS DETECTED IN BOTH THE SHALLOW AND DEEP GROUNDWATER WITHIN THE LANDFILL (SW-2 AND DW-2, RESPECTIVELY), AND IN THE UPGRADIENT GROUNDWATER (DW-1).

PCBS WERE ONLY FOUND IN THE SURFACE SOIL AT ONE LOCATION AT THE SITE. BORN PCB-1248 AND PCB-1254 WERE DETECTED AT THE SURFACE SAMPLE S-2 IN A OLD TRENCH USED FOR LEACHATE COLLECTION. HOWEVER, NONE WAS FOUND IN THE CULVERT OUTFLOW, THE UNNAMED STREAM, OR THE LICKING RIVER.

EXPOSURE POINTS

THE NEWPORT DUMP IS LOCATED IN A MIXED LAND-USE AREA WITH UNCULTIVATED FARMLAND AND AN INDUSTRIAL DEVELOPMENT TO THE NORTH, A SMALL FARM TO THE EAST, AND NATURAL VEGETATION ASSOCIATED WITH AN NAMED TRIBUTARY OF THE LICKING RIVER TO THE SOUTH.

THE NEAREST DWELLING IS APPROXIMATELY 360 FEET SOUTHEAST OF THE SITE ON STATE ROAD 9. OTHER RESIDENCES ARE LOCATED ALONG BANKLICK ROAD TO THE NORTH AND VINE STREET TO THE SOUTH, COMPRISING AN ESTIMATED TOTAL POPULATION OR 50 IN THE IMMEDIATE VICINITY OF THE SITE.

BECAUSE OF ITS READY AVAILABILITY, THE REGION RELIES TO A GREAT EXTENT ON THE OHIO RIVER AND ITS MAJOR TRIBUTARIES FOR ITS WATER SUPPLY. RESIDENTS OF KENTON AND BOONE COUNTIES ARE SERVED BY THE KENTON COUNTY WATER DISTRICT. THE DISTRICT, WHICH REGULARLY SERVES A POPULATION OF 75,000 OPERATES TWO WATER TREATMENT PLANTS: THE FT. THOMAS PLANT, WHICH DRAWS FROM THE OHIO RIVER, AND THE TAYLOR MILL PLANT WHICH HAS ITS INTAKE ON THE LICKING RIVER 250 FEET DOWNSTREAM FROM THE SITE. RESIDENTS IN THE IMMEDIATE VICINITY OF THE SITE ARE SERVED BY THE CAMPBELL COUNTY WATER DISTRICT.

IN CONTRAST TO SURFACE WATER USE, GROUNDWATER USE IN THE SITE VICINITY, IF IT EXISTS, IS EXTREMELY LIMITED. DISCUSSIONS WITH LOCAL WATER AUTHORITIES, COUNTY EXTENSION AGENTS, AND OTHER LOCAL OFFICIALS, FAILED TO IDENTIFY A SINGLE USER OF GROUNDWATER WITHIN A ONE-MILE RADIUS OF THE SITE. A DOOR-TO-DOOR SURVEY OF RESIDENTS NORTH AND SOUTH OF THE SITE CONFIRMED THAT RESIDENTS EITHER UTILIZE MUNICIPAL SOURCES OR UTILIZE CISTERNS. MOST RESIDENTS UTILIZE MUNICIPAL SOURCES.

BECAUSE NO GROUNDWATER USERS COULD BE IDENTIFIED, THE PRINCIPAL HUMAN EXPOSURE POINT ASSOCIATED WITH THE SITE IS THE WITHDRAWAL OF SURFACE WATER FROM THE INTAKE ON THE LICKING RIVER. THIS INTAKE COULD BE AFFECTED BY ENTERING THE RIVER EITHER THROUGH GROUNDWATER DISCHARGE OR VIA SURFACE RUNOFF. SUCH AN EVENTUALITY WOULD PLACE THE CUSTOMER BASES OF THE KENTON AND CAMPBELL COUNTY WATER DISTRICTS, OR 90,000 INDIVIDUALS, AT RISK. POSSIBLE EXPOSURE ROUTE TO SUBSURFACE SOIL CONTAMINANTS MAY INCLUDE INGESTION, INHALATION, AND DERMAL CONTACT. INGESTION MAY TAKE THE FORM OF DIRECT EXPOSURE THROUGH DRINKING OR EATING MATERIALS WHICH ARE CONTAMINATED; DIRECT INHALATION EXPOSURE RESULTS FROM BREATHING AIR WHICH HAS BECOME CONTAMINATED THROUGH VOLATILIZATION RELEASE OF GAS PHASED CONTAMINANTS, OR ENTRAINMENT OF AIRBORNE PARTICULATES.

DERMAL EXPOSURE MAY RESULT FROM DIRECT CONTACT WITH, SOIL OR OTHER MATERIAL, OR MAY INVOLVE INDIRECT CONTACT SUCH AS THE TRANSFER OF CONTAMINANTS TO CLOTHING AND FURNITURE, AND SUBSEQUENT SKIN CONTACT.

SURFACE WATER CONSUMPTION

THE LICKING RIVER IS ONE OF TWO SOURCES OF DRINKING WATER FOR THE APPROXIMATELY 75,000 CITIZENS OF KENTON AND BOONE COUNTIES SERVED BY THE KENTON COUNTY WATER DISTRICT.

AT PRESENT, NO DATA EXIST WHICH DEMONSTRATE A RELATIONSHIP BETWEEN CONTAMINANTS DETECTED ONSITE AND CONTAMINANTS DETECTED IN THE DISTRICT'S WATER INTAKE OR IN THE LICKING RIVER. OF THE SEVEN INDICATOR CHEMICALS, ONLY TOLUENE WAS DETECTED IN THE RAW WATER SAMPLE COLLECTED AT THE TAYLOR MILL FILTRATION PLANT. THUS, WHILE EXPOSURE TO HAZARDOUS MATERIALS ASSOCIATED WITH THE SITE VIA CONSUMPTION OF SURFACE WATER IS A POTENTIALLY COMPLETE EXPOSURE PATHWAY, IT REMAINS AS YET AN UNDEMONSTRATED PUBLIC HEALTH CONCERN.

GROUNDWATER CONSUMPTION

ALTHOUGH TRACES OF FIVE OF THE SEVEN INDICATOR CHEMICALS WERE DETECTED IN THE GROUNDWATER FROM ONE OR MORE OF THE PERMANENT MONITORING WELLS INSTALLED AS PART OF THE RI, NO ACTIVE DOMESTIC OR INDUSTRIAL WELLS COULD BE LOCATED WITHIN A ONE-MILE RADIUS OF THE SITE. THUS, CONSUMPTION OF CONTAMINATED GROUNDWATER DOES NOT APPEAR TO REPRESENT A COMPLETE EXPOSURE PATHWAY.

AIR AND SUBSURFACE GAS INHALATION

SINCE VOLATILE CONTAMINANTS WERE NOT DETECTED IN THE AMBIENT AIR OR IN OFFSITE BOREHOLES USING FILED MONITORING EQUIPMENT DURING THE RI, IT APPEARS THAT THE ENTRAPPED GASES BENEATH THE CAP ARE NOT BEING RELEASED OR MIGRATING OFFSITE. CERTAIN REMEDIAL ACTION ALTERNATIVES MAY, HOWEVER, DISTURB THE SOIL AND CREATE EMISSIONS OF CONTAMINATED DUST OR FREE PREVIOUSLY TRAPPED GASES. THE POPULATION AT GREATEST RISK OF EXPOSURE WOULD BE WORKERS AND OBSERVERS ONSITE DURING THE REMEDIAL ACTION IF ADEQUATE SAFETY MEASURES WERE NOT OBSERVED.

DIRECT CONTACT

NO QUANTITATIVE DATA ARE AVAILABLE ON THE SIZE OF THE POPULATION POTENTIALLY EXPOSED TO SITE-RELATED CONTAMINANTS VIA DIRECT CONTACT WITH CONTAMINATED SEDIMENT OR SOIL. HOWEVER, BECAUSE ACCESS TO THE SITE IS NOT RESTRICTED AND BECAUSE SOME OF THE CONTAMINANTS WHICH WERE DETECTED, NOTABLY PCBS, HAVE KNOWN DERMAL PENETRATION PROPERTIES, ACCIDENTAL EXPOSURE COULD OCCUR.

FEDERAL AND STATE APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

THE APPLICABLE STANDARDS AND CRITERIA ARE SHOWN IN TABLE 7. MOST OF THE INDICATOR CHEMICALS WERE DETECTED IN THE SHALLOW GROUNDWATER AT THE SITE.

EXPOSURE TO GROUNDWATER CONTAMINANTS WOULD HAVE TO BE THROUGH GROUNDWATER DISCHARGE TO SURFACE WATER AND WITHDRAWAL OF THAT WATER AT THE TAYLOR MILL FILTRATION PLANT. THEREFORE, IN COMPLIANCE WITH SARA SECTION 121(D) (2)(A)(II) ALTERNATE CONCENTRATION LIMITS (ACL'S) HAVE BEEN PRESENTED IN TABLE 8. THESE LIMITS ARE BASED ON ACTUAL GROUNDWATER CONTAMINATION AND ENSURE A SAFE BASELINE LIMIT IN DECIDING IF ANY FUTURE REMEDIAL ACTION WOULD BE NECESSARY.

AS STATED PREVIOUSLY, THE DILUTION RATE FOR GROUNDWATER DISCHARGE TO THE LICKING RIVER WAS OVER 40,000 TO 1. SINCE LAND USE CONTROLS COULD BE IMPLEMENTED TO PROHIBIT THE INSTALLATION OF ONSITE DRINKING WATER SUPPLY WELLS, IT WOULD BE CONSIDERED CONSERVATIVE IF THE ALTERNATE

CONCENTRATION LIMITS OF CONTAMINANTS IN GROUNDWATER WERE SET AT TEN TIMES THAT WHICH WOULD PROTECT DRINKING WATER SUPPLIES AS SHOWN IN THE TABLE. FINALLY SUBTITLE D, RCRA: MANAGING SOLID WASTE WILL BE THE APPROPRIATE STANDARD GOVERNING THE CLOSURE OF THIS FACILITY SUBSEQUENT TO THE IMPLEMENTATION OF THE REMEDIAL ACTION.

AS DISCUSSED PREVIOUSLY, THE POSSIBILITY OF DIRECT CONTACT WITH THE SURFACE SOIL OR SEDIMENT CANNOT BE PRECLUDED. SINCE LONG-TERM CONTACT IS NOT EXPECTED ON A REGULAR BASIS, CONSERVATIVE ACCEPTABLE LEVELS OF CONTAMINANTS COULD BE SET AT BACKGROUND LEVELS SINCE BENZO(A)PYRENE AND PCBS WERE NOT DETECTED IN OFFSITE BACKGROUND SAMPLES, CONSERVATIVE ACCEPTABLE LEVELS CAN BE SET BASED ON THE POTENTIAL BUT UNLIKELY INGESTION OF SOIL OR SEDIMENT. THE ACCEPTABLE LEVELS OF CONTAMINANTS FOR SURFACE SOIL OR SEDIMENT ARE SHOWN IN TABLE 9. THESE LEVELS WERE BASED ON MAXIMUM OBSERVED CONCENTRATION IN OFFSITE BACKGROUND SOIL AND SEDIMENT SAMPLES AND 10⁻⁶ RISK LEVEL OF CANCER FOR BENZO(A)PYRENE AND PCB.

#ENF

ENFORCEMENT ANALYSIS

CURRENTLY THE ONLY VIABLE PARTIES FOR SOME TYPE OF ENFORCEMENT ACTION ARE THE CITY OF NEWPORT AND THE NORTH KENTUCKY PORT AUTHORITY. BOTH PARTIES HAD ACQUIRED OWNERSHIP OF THE SITE BEFORE THE REMEDIAL INVESTIGATION ENSUED. NORTH KENTUCKY PORT AUTHORITY IS THE CURRENT OWNER OF THE SITE. TO DATE POTENTIAL RESPONSIBLE PARTY RESEARCH INDICATES THERE ARE NO TRANSACTIONAL RECORDS THAT IDENTIFY USERS OF THE SITE. SINCE THERE WAS NO CHANGE TO DUMP AT THE SITE, THEN NO DUMP TICKETS, INVOICES, ETC., WERE DEVELOPED. PARKING STICKERS MAY PROVIDE THE ONLY RECORD OF WHO HAD AUTHORITY TO ACCESS THE SITE. RESEARCH INDICATES THAT ALL NEWPORT CITY INDUSTRY DURING THE TERM OF OPERATION OF THE NEWPORT DUMP WOULD HAVE USED THE SITE TO DISPOSE OF THEIR WASTE. DUE TO THE UNCONTROLLED NATURE OF THE SITE AS EVIDENCED BY LAX ENFORCEMENT OF THE RESIDENT-ONLY USE POLICY PRIOR TO 1972, IT ALSO IS POSSIBLE THAT OTHER NON-RESIDENT USERS EXISTED. WITH THE ONSET OF A STRICTER ENFORCEMENT POSTURE IN 1972, IT IS POSSIBLE THAT PREVIOUSLY UNSTICKERED SITE USERS WOULD HAVE OBTAINED SUCH STICKERS IN 1972.

IT ALSO IS APPARENT THAT FORMER SITE OPERATORS MAY RECALL THE IDENTITY OF SPECIFIC UNAUTHORIZED SITE USERS. THE OTHER CITY OFFICIALS INTERVIEWED INDICATE PREVIOUS SITE OPERATORS THAT WOULD BE AWARE OF THE IDENTITY OF ANY SUCH USERS.

#AE

ALTERNATIVE EVALUATION

THE PURPOSE OF THE REMEDIAL ACTION IS TO MITIGATE CONTAMINATION AT THE NEWPORT DUMP SITE IN ORDER TO REMOVE POTENTIAL RISKS TO HUMAN HEALTH AND THE ENVIRONMENT.

EACH REMEDIAL ALTERNATIVE DEVELOPED FOR USE AT THE NEWPORT DUMP SITE WAS SUBJECTED TO AN ANALYSIS TO DETERMINE ITS EFFECTIVENESS IN ADDRESSING SITE PROBLEMS. THIS ANALYSIS ALSO INCLUDED AN EVALUATION OF THE PUBLIC HEALTH AND ENVIRONMENTAL RISKS BOTH DURING AND AFTER IMPLEMENTATION.

TABLE 10 AND 11 PRESENTS THE SIX REMEDIAL ACTION ALTERNATIVES EVALUATED FOR THIS SITE. EACH OF THE SIX ALTERNATIVES WERE EVALUATED BASED UPON TECHNICAL CONSIDERATION, INSTITUTIONAL ISSUES, ENVIRONMENTAL ISSUES, PUBLIC HEALTH IMPACTS AND COST CRITERIA. THE RESULTS OF THE FINAL EVALUATION ARE GIVEN BELOW.

ALTERNATIVE 1: NO ACTION

IF THIS ALTERNATIVE WERE SELECTED, NO ADDITIONAL REMEDIAL ACTIVITIES OR MONITORING WOULD BE UNDERTAKEN AT THE NEWPORT DUMP SITE. THIS ALTERNATIVE WOULD NOT REQUIRE ANY OPERATION AND

MAINTENANCE OR THE ACQUISITION OF PERSONNEL AND MATERIALS. THE IMPLEMENTATION OF THIS ALTERNATIVE WOULD NOT ADDRESS ANY IMPACTS RESULTING FROM THE SITE CONTAMINANTS. CONTAMINANT MIGRATION COULD OCCUR UNNOTICED AND WITHOUT MEANS OF CONTROL. GROUNDWATER DISCHARGE OF CONTAMINANTS ABOVE HEALTH BASED STANDARDS FROM THE SHALLOW AQUIFER INTO THE LICKING RIVER HAS BEEN DOCUMENTED. THIS OPTION DOES NOT SATISFY ANY CURRENTLY APPLICABLE OR RELEVANT STATE OR FEDERAL (RCRA) STANDARDS FOR THE CLOSURE OF A SITE. BASED UPON THE ABOVE CONSIDERATION OF PUBLIC HEALTH, THIS NO ACTION ALTERNATIVE HAS BEEN REJECTED.

ALTERNATIVE 2: NO ACTION - MONITORING

ALL ASPECTS OF THIS ALTERNATIVE ARE THE SAME AS THOSE DESCRIBED UNDER ALTERNATIVE 1, WITH THE EXCEPTION OF PERIODIC SAMPLING, ANALYSIS AND REPORT PREPARATION CONCERNING GROUNDWATER QUALITY, SURFACE WATER AND SOIL CONTAMINATION. SAMPLING ANALYSIS, AND REPORT PREPARATION WOULD BE PERFORMED SEMI-ANNUALLY. SAMPLING AND SITE VISITS WOULD MEAN THAT THE SITE AND GROUNDWATER WILL BE MONITORED AND NOT GO UNNOTICE. SIMILAR TO ALTERNATIVE 1, NO REMEDIAL ACTION PROVIDES NO ADDITIONAL PROTECTION TO THE PUBLIC HEALTH AND ENVIRONMENT. BASED UPON CONSIDERATION, THIS NO ACTION ALTERNATIVE HAS BEEN REJECTED.

ALTERNATIVE 4: MONITORING, LEACHATE COLLECTION, REGRADING AND REVEGETATION, CAPPING, AND GAS COLLECTION

THIS ALTERNATIVE INVOLVES THE PLACEMENT OF A MULTILAYERED CAP OVER THE ENTIRE 39 ACRE SITE, REPAIRING THE LEACHATE COLLECTION SYSTEM AND A GAS COLLECTION AND TREATMENT SYSTEM WHICH WOULD CONTROL GAS MIGRATION AND ITS RELATED HAZARDS. IMPLEMENTATION OF THIS ALTERNATIVE WOULD SERVE TO CLOSE THE LANDFILL IN COMPLIANCE WITH THE REQUIREMENTS UNDER RCRA 40 CFR 264. THIS ALTERNATIVE HAS BEEN REJECTED BECAUSE THE INSTALLATION OF A RCRA CLAY CAP WOULD NOT BE COST EFFECTIVE (\$17,175,000). THE AMOUNT OF SURFACE CONTAMINATION IS MINIMAL AND A DECREASE IN GROUNDWATER DISCHARGE TO SURFACE WATERS CAN BE AFFECTED BY OTHER MEANS. THE SAME EFFECT FOR MINIMIZATION OF LEACHATE GENERATION CAN BE ACCOMPLISHED WITH REGRADING AND REVEGETATION AND REPAIR OF THE LEACHATE COLLECTION SYSTEM.

ADDITIONALLY BOTH THE CITY OF NEWPORT AND THE KENTUCKY PORT AUTHORITY DO PLAN SOME TYPE OF RECLAMATION AND CONSTRUCTION WORK ON THE 39 ACRE SITE. THE RCRA CAP IS COMPOSED OF ARTIFICIAL MEMBRANES THAT ARE NOT AMENABLE TO THE PROPOSED LAND RENOVATION PLANNED BY THE LOCAL AUTHORITIES. THE CAP WOULD NOT TOLERATE ANY TYPE OF HEAVY CONSTRUCTION AND ITS INTEGRITY, DESIGN LIFE AND USEFULNESS WOULD BE THREATENED TO A SUBSTANTIAL DEGREE. ALSO DUE TO THE MINIMAL LEVELS OF ORGANIC VAPOR VENTING FROM THE SUBSURFACE, A GAS COLLECTION SYSTEM IS NOT WARRANTED AND PREMATURE AT THIS JUNCTURE OF THE REMEDIAL PROCESS.

ALTERNATIVE 5: MONITORING, EXCAVATION, AND SOLIDIFICATION/STABILIZATION

IMPLEMENTATION OF THIS ALTERNATIVE WOULD REQUIRE EXTENSIVE EXCAVATION AND THE USE OF A SILICATE-BASED SOLIDIFICATION STABILIZATION PROCESS. AS A RESULT OF THESE TWO PROCEDURES, SEPARATION OF THE WASTE MATERIAL, BACKFILLING, AND REGRADING AND REVEGETATION WOULD ALSO BE NECESSARY. A MONITORING PROGRAM, WOULD BE INSTITUTED FOR THE COLLECTION AND ANALYSES OF GROUNDWATER SAMPLES TO DETERMINE THE LONG-TERM EFFECTIVENESS OF THE SOLIDIFICATION/STABILIZATION PROCESS.

THE NEWPORT DUMP SITE COVERS AN AREA OF 39 ACRES AND IS ESTIMATED TO HAVE A TOTAL VOLUME OF 1,078,000 CUBIC YARDS OF WASTE AND CONTAMINATED SOIL. BASED ON LITHOLOGIC LOGS OF SITE BOREHOLES AND HISTORICAL PHOTOGRAPHS, APPROXIMATELY 1,509,000 CUBIC YARDS WOULD HAVE TO BE EXCAVATED. THE DIFFERENCE IN VOLUMES IS ACCOUNTED FOR BY THE COVER THAT PRESENTLY EXISTS AT THE SITE. THE DEPTH OF EXCAVATION WOULD VARY WIDELY AT THE SITE, RANGING FROM 5 FEET IN PORTIONS OF THE EASTERN SECTION TO 40 FEET IN THE WESTERN SECTION OF THE LANDFILL. THE ACTUAL DEPTH OF

EXCAVATION WOULD BE DETERMINED VISUALLY WITH CONFIRMATION SAMPLING AT THE BASE OF THE EXCAVATION.

THOUGH SARA DICTATES PERMANENT ON-SITE DETOXIFICATION OF HAZARDOUS WASTE, THE LARGE AMOUNT OF SOIL TO DETOXYFY WOULD REQUIRE EXTENSIVE AND UNWARRANTED WASTE HANDLING PRACTICES DURING CLEAN-UP. THE IMPLEMENTATION OF THIS ALTERNATIVE WOULD HAVE THE POTENTIAL TO SIGNIFICANTLY IMPACT PUBLIC HEALTH. DURING THE EXCAVATION PROCEDURES, THE OPPORTUNITY FOR OFFSITE MIGRATION OF CONTAMINANTS WOULD BE GREATLY INCREASED. PATHWAYS FOR THIS MIGRATION WOULD INCLUDE AIRBORNE PARTICULATES, GAS EMISSION, AND SURFACE RUNOFF.

RECEPTORS IN THE AREA OF THE SITE WOULD BE SUSCEPTIBLE TO INHALATION OF GAS AS WELL AS CONTAMINANT-LADEN PARTICULATES, THE INGESTION OF PARTICULATES, AND DIRECT CONTACT WITH WASTES.

ANOTHER FACTOR THAT COULD POTENTIALLY IMPACT PUBLIC HEALTH WOULD BE THE ONSITE STORAGE OF THE WASTE MATERIAL PRIOR TO THE SOLIDIFICATION/STABILIZATION PROCESS. STORING THE WASTE WOULD INCREASE THE CHANCE OF CONTAMINANT LOSS DUE TO VOLATILIZATION AND SURFACE RUNOFF.

IMPLEMENTATION OF THIS ALTERNATIVE SHOULD, IN THE LONG-TERM, ELIMINATE THE PUBLIC HEALTH CONCERNS ASSOCIATED WITH THE LANDFILL. THIS WOULD BE ACHIEVED BY SOLIDIFICATION AND STABILIZATION OF THE HAZARDOUS MATERIALS. HOWEVER, THERE COULD BE POTENTIAL ADVERSE HEALTH EFFECTS ASSOCIATED WITH THE POSSIBLE LEACHING OF CONTAMINANTS FROM THE SOLIDIFIED AND STABILIZED WASTES. THE LOW LEVELS OF CONTAMINANTS PRESENTLY IN THE GROUNDWATER WOULD CONTINUE TO MIGRATE OFFSITE UNTIL THE SITE HAD BEEN SELF-PURGED. ADDITIONALLY THIS REMEDY WOULD COST \$40 MILLION DOLLARS TO IMPLEMENT. THIS EXPENDITURE CANNOT BE JUSTIFIED BASED ON THE LOW LEVEL POTENTIAL HEALTH THREAT THE SITE POSES TO THE COMMUNITY. BASED ON THESE CONSIDERATIONS THIS ALTERNATIVE IS REJECTED.

ALTERNATIVE 6: EXCAVATION AND OFFSITE DISPOSAL

THE COMPONENTS OF ALTERNATIVE 6 WOULD BE EXCAVATION WITH SEPARATION OF THE WASTE AND DISPOSAL IN AN OFFSITE LANDFILL, BACKFILLING, REGRADING, AND REVEGETATION. THE ALTERNATIVE WOULD REQUIRE DISPOSAL OF THE WASTE MATERIAL IN AN OFFSITE EPA-APPROVED RCRA LANDFILL. THIS WOULD BE CARRIED OUT CONCURRENTLY WITH EXCAVATION, SEPARATION AND BACKFILLING.

IMPLEMENTATION OF THIS ALTERNATIVE WOULD RESULT IN THE EXCAVATION OF APPROXIMATELY 1,509,000 CUBIC YARDS OF WASTE AND CONTAMINATED SOIL. THE EXCAVATED MATERIAL WOULD BE SEPARATED, AND THE 788,000 CUBIC YARDS OF HAZARDOUS WASTE AND CONTAMINATED SOIL WOULD BE TRANSPORTED OFFSITE TO AN EPA APPROVED RCRA LANDFILL.

THERE ARE PRESENTLY TWO OFFSITE COMMERCIAL LANDFILLS IN REGION IV IN COMPLIANCE WITH RCRA REQUIREMENTS. THESE LANDFILLS ARE IN EMELE, ALABAMA AND PINE WOOD, SOUTH CAROLINA. TRANSPORTATION WOULD BE ACCOMPLISHED USING 20-CUBIC YARD TRUCKS AND WOULD REQUIRE 39,400 LOADS FOR COMPLETION. THE SITE WOULD BE BACKFILLED WITH THE SEPARATED NONHAZARDOUS MATERIAL AND OFFSITE SOIL AND THE REGRADED AND REVEGETATED.

DISPOSAL IN AN OFFSITE LANDFILL IS A PERMANENT REMEDIAL ACTION AND WOULD PROVIDE A VERY HIGH LEVEL OF ENVIRONMENT AND PUBLIC HEALTH PROTECTION.

HOWEVER, THE ALTERNATIVE DIRECTLY CONTRADICTS THE INTENT OF THE NEW SARA MANDATES. SARA CALLS FOR THE AGENCY TO PREFER REMEDIES THAT USE ON SITE TREATMENT TO PERMANENTLY AND SIGNIFICANTLY REDUCE THE TOXICITY, MOBILITY, OR VOLUME OF WASTES OVER REMEDIES THAT DO NOT USE SUCH TREATMENT. IN ADDITION, SARA REQUIRES THAT THE AGENCY SELECT A REMEDY THAT UTILIZES PERMANENT SOLUTIONS AND ALTERNATIVES TREATMENT TECHNOLOGIES, OR RESOURCE RECOVERY TECHNOLOGIES, TO THE MAXIMUM EXTENT PRACTICABLE. EXCAVATION AND OFFSITE DISPOSAL DO NOT COMPLY WITH THE INTENT OF THE NEW SUPERFUND

STATUTES.

ADDITIONALLY DUE TO THE MINIMAL EXTENT OF CONTAMINATION AT THE SITE SUCH AN EXPENSIVE REMEDIAL ACTION (179 MILLION DOLLARS) CANNOT BE JUSTIFIED. BASED ON THESE CONSIDERATIONS THIS ALTERNATIVE HAS BEEN REJECTED.

ALTERNATIVE 3: MONITORING, LEACHATE COLLECTION, REGRADING AND REVEGETATION

THIS ALTERNATIVE HAS BEEN SELECTED AS THE RECOMMENDED ALTERNATIVE ACTION FOR THE NEWPORT DUMP SITE. THIS ALTERNATIVE SELECTION DOES NOT FULLY COMPLY WITH CERTAIN PORTIONS OF SARA SS121. SARA EMPHASIZES REMEDIES THAT MUST UTILIZE PERMANENT SOLUTIONS AND ALTERNATIVE TECHNOLOGIES OR RESOURCE RECOVERY TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE. SINCE 1) MINIMAL CONTAMINATION HAS BEEN FOUND IN THE SURFACE SOIL AND GROUNDWATER DISCHARGE TO THE SURFACE WATER, AND 2) ONE MILLION CUBIC YARDS OF SOLID AND HAZARDOUS WASTE IS BURIED AT THE SITE, THEN THIS REMEDIAL ACTION SELECTED IS ADEQUATE TO THE "MAXIMUM EXTENT PRACTICABLE" FOR THIS SITE. THE SELECTED REMEDY IS PROTECTIVE AND COST-EFFECTIVE, ATTAINS AREAS AND IS A PRACTICABLE SOLUTION WHICH SUBSTANTIALLY REDUCES THE PUBLIC HEALTH AND ENVIRONMENTAL THREAT TO NEGLIGIBLE LEVELS. THIS ALTERNATIVE WOULD INCLUDE THE FOLLOWING REMEDIAL ACTION COMPONENTS:

1) MONITORING

THE PRIMARY HEALTH CONCERN AT THE NEWPORT DUMP SITE IS THAT SITE CONTAMINANTS MAY MIGRATE TO THE LICKING RIVER AND ENTER THE RAW WATER INTAKE 250 FEET FROM THE SITE. SINCE VARIOUS CONTAMINANTS WERE DETECTED DURING THE REMEDIAL INVESTIGATION (RI) IN THE GROUNDWATER AND SURFACE SOIL NEAR THE LICKING RIVER BANK, THERE IS A POTENTIAL FOR THESE CONTAMINANTS TO DISCHARGE INTO THE LICKING RIVER. AS A RESULT OF THIS CONCERN, BOTH GROUNDWATER AND SURFACE WATER WOULD BE MONITORED.

SIX OF THE GROUNDWATER MONITORING WELLS INSTALLED DURING THE RI WOULD BE SAMPLED TO DETERMINE THE LEVELS OF CONTAMINANTS BEING RELEASED (SEE FIGURE 16). THE GROUNDWATER SAMPLES FROM LOCATION DW-1 AND DW-3 WOULD BE USED TO MONITOR THE GROUNDWATER QUALITY UPGRADIENT OF THE SITE. THE SAMPLES FROM DW-3 WOULD ALSO PROVIDE DATA ON POSSIBLE CONTAMINATION MIGRATING UNDER THE SITE FROM THE NON-FERROUS AUTO PARTS LANDFILL. GROUNDWATER SAMPLES FROM LOCATIONS SW-2/DW-2 AND SW-5/DW-5 WOULD PROVIDE INFORMATION ON GROUNDWATER QUALITY AT TWO DEPTHS BENEATH THE LANDFILL. THE SAMPLING PROGRAM FOR GROUNDWATER WOULD INCLUDE QUARTERLY MONITORING AT THE FOUR LOCATIONS FOR THREE YEARS TO ESTABLISH BASELINE CONDITIONS AND THEN THE PROGRAM WOULD BE REEVALUATED FOR CHANGES IN ANALYSES AND SAMPLING FREQUENCY.

SURFACE WATER WOULD BE MONITORED AT THREE LOCATIONS ADJACENT TO THE RIVER BANK SHOWN ON FIGURE 16 TO DETERMINE THE EFFECTS, IF ANY, OF CONTAMINANTS ENTERING THE LICKING RIVER. THE SURFACE WATER AT LOCATION LR-1 AND LR-2 WOULD BE USED TO MONITOR WATER QUALITY AT THE KENTON COUNTY WATER TREATMENT PLANT INTAKE. THE SAMPLING PROGRAM FOR SURFACE WATER WOULD INCLUDE QUARTERLY MONITORING FOR THREE YEARS AND THEN THE PROGRAM WOULD BE REEVALUATED FOR CHANGES IN ANALYSES AND SAMPLING FREQUENCY. INITIALLY, THE SURFACE WATER WOULD BE ANALYZED FOR THE COMPLETE HAZARDOUS SUBSTANCE LIST.

A MONITORING SYSTEM TO DETECT GAS MIGRATION WOULD BE INSTITUTED. TWO MONITORING WELLS WOULD BE INSTALLED ALONG THE SITE'S NORTHERN BOUNDARY TO SUPPLY GAS MIGRATION INFORMATION POTENTIALLY AFFECTING THE INDUSTRIAL PARK AND RESIDENTIAL AREA LOCATED NORTH OF THE LANDFILL. SINCE THE MAJORITY OF WASTE WAS REPORTEDLY DEPOSITED IN THE WESTERN PORTION OF THE LANDFILL, A GAS MONITORING WELL ALONG THIS BORDER WOULD PROVIDE INFORMATION CONCERNING THE LANDFILL POTENTIAL FOR GAS GENERATION. AN ADDITIONAL GAS MONITORING WELL WOULD BE PLACED ON THE SITE'S EASTERN BOUNDARY TO DETECT ANY MIGRATION TOWARD THE RESIDENCE LOCATED ADJACENT TO THE LANDFILL (SEE FIGURE 16).

GAS MONITORING ALONG THE SITE'S SOUTHERN BOUNDARY WAS NOT CONSIDERED DUE TO THE BUFFER ZONE SUPPLIED BY THE UNNAMED STREAM AS WELL AS THE ABSENCE OF RECEPTORS. THE SAMPLING PROGRAM FOR GAS WOULD INCLUDE QUARTERLY MONITORING FOR THREE YEARS AT WHICH TIME THE PROGRAM WOULD BE REEVALUATED FOR CHANGES IN ANALYSES AND SAMPLING FREQUENCY.

ANNUALLY, THE QUARTERLY RESULTS OF THE SAMPLING AND ANALYSIS PROGRAM WOULD BE AVERAGED AND COMPARED TO THE ACCEPTABLE LEVELS OF CONTAMINANTS ESTABLISHED FOR GROUNDWATER AND SURFACE WATER IN THE PUBLIC HEALTH EVALUATION. IF ANY OF THE INDICATOR CHEMICALS EXCEED THESE ACCEPTABLE CONCENTRATIONS ON AN AVERAGE ANNUAL BASIS, THE PROPOSED REMEDIAL ACTION AT THE SITE WOULD BE REEVALUATED BY THE EPA. IF ANY VOLATILE GASES ARE DETECTED IN SAMPLES FROM THE GAS MONITORING WELLS, THE NEED FOR MONITORING AMBIENT AIR WOULD THEN BE EVALUATED. THE TIME AND PROCEDURE FOR THESE EVALUATIONS SHALL BE DONE IN ACCORDANCE WITH THE STATUTORY MANDATES OF SARA.

2) LEACHATE COLLECTION

THE EFFECTIVENESS OF THE PRESENT SYSTEM WHICH WAS COMPLETED IN 1980, HAS BEEN OF CONCERN. THIS CONCERN HAS BEEN GENERATED FROM THE INABILITY OF THE SYSTEM TO FILL THE HOLDING TANK LOCATED IN THE SOUTHWEST CORNER OF THE SITE (SEE FIGURE 17). IT IS ALSO BELIEVED THAT A PORTION OF THE LEACHATE MAY BE ENTERING BREAKS IN THE 60-INCH CULVERT THAT RUNS FROM THE NATURAL DRAINAGE AREA NORTH OF THE SITE TO THE UNNAMED STREAM ALONG THE SITE'S SOUTHERN BORDER.

THEREFORE UNDER THIS ALTERNATIVE A PROPERLY OPERATING SYSTEM FOR THE COLLECTION OF LEACHATE WOULD BE PROVIDED. THIS WOULD INVOLVE THE REPAIR OR REPLACEMENT OF THE EXISTING SYSTEM AND THE CONSTRUCTION OF ADDITIONAL COLLECTION LINES ALONG THE NORTHEAST BORDER OF THE SITE. FIGURE 17 SHOWS THE LOCATION OF THE EXISTING SYSTEM AND THE PROPOSED EXPANSION. THIS COLLECTION SYSTEM WOULD PREVENT THE MIGRATION OF CONTAMINATED LEACHATE TO THE UNNAMED STREAM, LICKING RIVER, AND THE AREA NORTH OF THE SITE. INCLUDED AS PART OF THE LEACHATE COLLECTION SYSTEM WOULD BE THE INSTALLATION OF A COLLECTION BASIN AND PUMP TO REMOVE WATER FROM THE NATURAL DRAINAGE AREA LOCATED NORTHEAST OF THE SITE. REMOVAL OF THIS WATER WOULD GREATLY REDUCE INFILTRATION INTO THE NORTHEAST FACE OF THE LANDFILL AND SUBSEQUENT LEACHATE FORMATION. IN ADDITION, IT IS LIKELY THAT SUBSIDENCE OR CLOGGING HAS IMPAIRED THE ABILITY OF THE LEACHATE COLLECTION SYSTEM TO FUNCTION PROPERLY. TO BRING THE PRESENT SYSTEM TO STANDARD, IT WOULD BE ACCESSED AND FLUSHED USING HIGH PRESSURE, JET-CLEANING EQUIPMENT. TO ACCESS THE SYSTEM, PERMANENT MANHOLES WOULD BE INSTALLED AT 500-FEET INTERVALS.

FAILED PORTIONS OF THE SYSTEM WOULD BE EXCAVATED AND NEW A COLLECTION LINE RETROFITTED. TO ELIMINATE THE POTENTIAL LOSS OF LEACHATE TO THE 60-INCH CORRUGATED METAL DRAINAGE PIPE, THE CULVERT WOULD BE SEALED AT EACH END WITH A CONCRETE BENTONITE MIXTURE. THE COLLECTION SYSTEM EXTENSION ALONG THE NORTHEAST BORDER OF THE LANDFILL WOULD CONSIST OF 1,000 FEET OF LINE AND AN ADDITIONAL 5,000-GALLON FIBERGLASS TANK. THE SYSTEM WOULD BE CONSTRUCTED BY DIGGING A TRENCH 2-FOOT WIDE AND 9-FOET DEEP AND PLACING A 4-INCH PERFORATED POLYVINYL CHLORIDE PIPE ON A 4-INCH BED OF SAND. A 2-FOOT DRAINAGE LAYER OF GRAVEL WOULD BE PLACED OVER THE PIPE AND COVERED BY A 6-INCH LAYER OF GRADED SAND. FINALLY, THE TRENCH WOULD BE BACKFILLED TO GRADE WITH COMMON FILL (SEE FIGURE 18).

THE SYSTEM WOULD BE PLACED ALONG THE 515 FOOT (AMSL) CONTOUR AT A SLOPE OR 2 PERCENT. BOTH OF THE LEACHATE COLLECTION TANKS MENTIONED ABOVE WOULD BE EQUIPPED WITH PUMPS TO LIFT THE LEACHATE TO A 20,000-GALLON TANK LOCATED ON THE SURFACE OF THE LANDFILL. WITH THIS ARRANGEMENT, INUNDATION BY FLOOD WATERS WOULD BE ELIMINATED AND ACCESS WOULD BE AVAILABLE YEAR ROUND. IF ANALYSES RESULTS DETERMINE THAT LEACHATE TREATMENT IS NECESSARY, AN APPROPRIATE TREATMENT SCHEME WOULD BE DETERMINED BY CONDUCTING A PILOT-SCALE STUDY. IF TREATMENT IS NOT NECESSARY, THE LEACHATE WOULD BE PUMPED TO TRUCKS AND TRANSPORTED TO A NEARBY TREATMENT PLANT.

STORM DRAINAGE WOULD BE CONTROLLED BY INSTALLING A PRECAST 1,000 GALLON CONCRETE TANK AT THE TOE

OF THE LANDFILL'S NORTHEAST FACE. IF NECESSARY, MINOR GRADING WOULD BE DONE TO PROMOTE DRAINAGE TO THIS TANK. A CENTRIFUGAL PUMP WITH A FLOAT CONTROL VALVE WOULD BE USED TO REMOVE THE WATER FROM THIS TANK AND TRANSPORT IT THROUGH A 6-INCH PIPE ACROSS THE TOP OF THE LANDFILL WITH DISCHARGE TO THE UNNAMED STREAM.

3) REGRADING AND REVEGETATION

IN ORDER TO STABILIZE AND PREVENT FURTHER EROSION OF THE NORTHEAST LANDFILL BANK, REGRADING WOULD BE NECESSARY. IN ADDITION, TO PROVIDE PROTECTION AGAINST INFILTRATION INTO THE BANK, TWO FEET CLAY WOULD BE INCLUDED AS PART OF THE BANK STABILIZATION PROCESS.

PRESENTLY THE TERRAIN IS EXTREMELY VARIABLE WITH SOME STEEP ERODED AREAS. THE FINAL SLOPE WOULD BE REDUCED TO A CONSTANT 5 TO 1 CHANGE IN ELEVATION. REVEGETATION WOULD BE REQUIRED FOLLOWING REGRADING IN ORDER TO STABILIZE THE AREA. ALTERATIONS TO THE BANK WOULD BE COMPLETED AT THE SAME TIME THAT THE EXTENDED LEACHATE COLLECTION SYSTEM LINES, ARE BEING INSTALLED.

LOCAL MATERIALS WOULD BE USED FOR ROUGH CORRECTION OF THE SLOPE PRIOR TO THE APPLICATION OF THE CLAY LAYER AND TO SUPPLY THE FINAL COVER FOR THE ESTABLISHMENT OF VEGETATION. FIGURE 19 SHOWS A CROSS SECTION OF THE EXISTING GRADE AND THE AMOUNT OF MATERIAL THAT WOULD BE NECESSARY TO ACHIEVE THE CONSTANT GRADE.

4) SUBTITLE D: MUNICIPAL WASTE LANDFILL

FOR THE NEWPORT DUMP SITE A DISTRICT SEPARATION OF RCRA SUBTITLE C (HAZARDOUS WASTE) AND SUBTITLE D (MUNICIPAL WASTE) IS DIFFICULT TO ASCERTAIN SINCE THE SITE CONTAINS BOTH SURFACE AND SUBSURFACE SOIL CONTAMINATION WHICH IS SIMILAR TO THE CONTAMINATION COMMONLY FOUND IN MUNICIPAL WASTE (SEE TABLE 1). THE REGULATORY FRAMEWORK ESTABLISHED UNDER SUBTITLE C (40 CFR PART 260-267) WAS DESIGNED TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT FROM THE EFFECT OF UNPERMITTED DISPOSAL RESULTING IN THE IMPROPER MANAGEMENT OF HAZARDOUS WASTE. HOWEVER, DUE TO THE MINIMAL AMOUNT OF SURFACE CONTAMINATION AND MIGRATION OF HAZARDOUS WASTE OFFSITE AND SINCE THE REMEDIAL ALTERNATIVE SELECTION DOES COMPLY WITH SARA SS121 TO THE "MAXIMUM EXTENT PRACTICABLE" THEN ANY CLOSURE OR POST CLOSURE REQUIREMENT CAN BE DETERMINED BY SUBTITLE D "CRITERIA FOR CLASSIFICATION OF SOLID WASTE DISPOSAL FACILITIES AND PRACTICES", COMMONLY REFERRED TO AS THE "SUBTITLE D CRITERIA" (40 CFR PART 257).

THE CRITERIA ARE USED AS A (1) SET OF MINIMUM TECHNICAL STANDARDS WITH WHICH ALL FEDERAL AND NON-FEDERAL SOLID WASTE DISPOSAL FACILITIES MUST COMPLY, AND (2) A MEANS OF DETERMINING IF A SOLID WASTE DISPOSAL FACILITY IS AN OPEN DUMP. THE CRITERIA COVER EIGHT AREAS: FLOODPLAINS, ENDANGERED SPECIES, SURFACE WATER, GROUNDWATER, WASTE APPLICATION LIMITS FOR LAND USED IN THE PRODUCTION OF FOOD CHAIN CROPS, DISEASE TRANSMISSION, AIR, AND SAFETY. THESE CRITERIA SHOULD BE EXAMINED AND IMPLEMENTED DURING AND AFTER THE COMPLETION OF THE REMEDIAL ACTION. THE STATE OF KENTUCKY DEPARTMENT OF ENVIRONMENTAL PROTECTION HAS BEEN DELEGATED THIS RESPONSIBILITY AND SHOULD ADHERE TO THE REGULATIONS UNDER 40 CFR PART 256.

PUBLIC HEALTH EVALUATION

- IMPLEMENTATION PHASE

THERE WOULD BE RISKS INVOLVED WITH THE CONSTRUCTION OF THE LEACHATE COLLECTION SYSTEM AND THE REGRADING OF THE NORTHEAST SLOPE. THE HAZARDS WOULD INCLUDE THE POTENTIAL INHALATION OF VOLATILE CONTAMINANTS DURING CONSTRUCTION OF THE LEACHATE COLLECTION SYSTEM AND THE INGESTION OF CONTAMINATED DUST GENERATED FROM SURFACE REGRADING ACTIVITIES. REMEDIAL PERSONNEL DIGGING THE TRENCHES AND INSTALLING THE LEACHATE COLLECTION SYSTEM MIGHT BE REQUIRED TO WEAR LEVEL B RESPIRATORY PROTECTION (SELFCONTAINED BREATHING APPARATUS). SURFACE CONTAMINATION IS EXPECTED

TO BE MINIMAL AND WOULD BE RESTRICTED TO RELATIVELY SMALL, ISOLATED PORTIONS OF THE LANDFILL. ADDITIONALLY, THE PERIOD OF EXPOSURE WOULD BE RESTRICTED TO THE CONSTRUCTION PHASE, WHICH IS EXPECTED TO BE ONLY 10 WEEKS. DURING THIS PERIOD, WORKERS COULD BE PROTECTED FROM SIGNIFICANT EXPOSURE THROUGH THE USE OF READILY AVAILABLE AND ACCEPTED CONTROL TECHNOLOGIES.

THE POTENTIAL FOR EXPOSURE BY OFFSITE PUBLIC RECEPTORS WOULD BE MINIMAL, SINCE NO MATERIAL WOULD BE REMOVED FROM THE LANDFILL. CONSTRUCTION EQUIPMENT MOVING OFFSITE WOULD BE DECONTAMINATED AT THE SITE EXIT, THEREBY ELIMINATING TRANSPORT OF CONTAMINANT MATERIAL OFFSITE BY THIS MECHANISM.

- RESIDUAL RISK

IN TERMS OF ITS RESIDUAL EFFECT ON THE PUBLIC HEALTH, IMPLEMENTATION OF THIS ALTERNATIVE WOULD ELIMINATE THE RISKS ASSOCIATED WITH THE DISCHARGE OF LEACHATE TO THE LICKING RIVER AND EVENTUALLY TO THE RAW WATER INTAKE DOWNSTREAM OF THE SITE. THIS ALTERNATIVE WOULD RESULT IN STABILIZING A PRESENTLY STEEP AND ERODING SLOPE, WHILE PREVENTING THE POSSIBILITY OF WASTE EXPOSURE AND REDUCING INFILTRATION.

IMPLEMENTATION OF THIS ALTERNATIVE WOULD ALSO PROVIDE AN EARLY WARNING SYSTEM (MONITORING OF GAS AND WATER) SHOULD SITE CONDITIONS CHANGE.

ENVIRONMENTAL EVALUATION

- IMPLEMENTATION PHASE

THE ALTERNATIVE WOULD REQUIRE MINOR EXCAVATION AND SURFACE ACTIVITY, BUT ANY IMPACT ON THE REGIONAL ENVIRONMENT FROM THIS ACTION SHOULD BE NEGLIGIBLE IF GOOD WORK PRACTICES ARE EMPLOYED.

- RESIDUAL RISK

A SIGNIFICANT DECREASE IN THE RISK ASSOCIATED WITH THE SITE WOULD BE ACHIEVED WITH THE IMPLEMENTATION OF THIS ALTERNATIVE. SENSITIVE ENVIRONMENTAL RECEPTORS IN THE UNNAMED STREAM AND LICKING RIVER WOULD BE RELIEVED OF THE POTENTIAL STRESS RESULTING FROM THE DISCHARGE OF LEACHATE.

INSTITUTIONAL EVALUATION

THE INSTITUTIONAL REQUIREMENTS FOR MONITORING ARE SHOWN IN TABLE 7 AND ACLS ARE SHOWN IN TABLE 8 AND 9. IMPLEMENTATION OF THIS ALTERNATIVE MIGHT REQUIRE THAT THE LEACHATE BE PRETREATED PRIOR TO DISCHARGE TO A LOCAL SEWAGE TREATMENT PLANT. THERE ARE FEDERAL AND STATE GUIDELINES CONCERNING MAXIMUM SLOPES FOR LANDFILL BANKS THAT WOULD BE MET DURING THE REGRADING PROCESS.

THE CITY OF NEWPORT AND THE NORTH KENTUCKY PORT AUTHORITY DO PLAN TO RENOVATE AND CONSTRUCT ON THE SITE. REGRADING AND REVEGETATION WILL BE ADAPTABLE TO ANY TYPE OF FUTURE WORK AT THE SITE AS OPPOSED TO A RCRA CAP INSTALLATION. HOWEVER, AT THE SAME TIME, HEAVY CONSTRUCTION AND EARTH MOVING CAN AND WILL REDUCE THE DESIGN LIFE OF THIS REMEDIAL ACTION AFTER THE IMPLEMENTATION PHASE. THEREFORE, FUTURE RENOVATION ACTIVITIES WILL HAVE TO BE DELAYED FOR 3 YEARS, AFTER THE REMEDIAL ACTION HAS BEEN IMPLEMENTED.

AFTER 3 YEARS WHEN MONITORING DOES REVEAL INNOCUOUS LEVELS OF CONTAMINATION, THEN SOME TYPE OF AGREEMENTS, ORDERS OR COVENANTS WILL HAVE TO BE ESTABLISHED AMONG THE LOCAL AND STATE GOVERNMENTS, AND EPA TO ESTABLISH AND MAINTAIN LIMITS AND STANDARDS TO THE TYPE OF LAND RENOVATION THE SITE CAN TOLERATE AND REMAIN STABLE. ALSO THE LOCAL AUTHORITIES MUST PROMULGATE IMMEDIATELY A MANDATE ON PERMANENT LAND USE RESTRICTIONS I.E. PROHIBITING THE DRILLING OF ANY TYPE OF GROUNDWATER WELL OR SUBSURFACE EQUIPMENT. THE KENTUCKY STATE DEPARTMENT OF NATIONAL

RESOURCES AND ENVIRONMENTAL PROTECTION SHALL BE RESPONSIBLE IN ENSURING THAT ALL MUNICIPALITIES COMPLY WITH THE 3 YEAR MORATORIUM ON FUTURE LAND USE AFTER REMEDIAL ACTION IS COMPLETED.

COST EVALUATION

CAPITAL COSTS FOR THE INSTALLATION OF THE GAS MONITORING WELLS, THE LEACHATE COLLECTION SYSTEM, AND REGRADING AND REVEGETATION WOULD BE \$516,000. OPERATION AND MAINTENANCE COSTS WOULD INCLUDE ROUTINE INSPECTIONS OF THE LEACHATE COLLECTION SYSTEM, ALL LANDFILL SLOPES, AND THE MONITORING. THIS WOULD RESULT IN ANNUAL OPERATION AND MAINTENANCE COSTS FOR THE FIRST 3 YEARS OF \$63,000 AND FOR YEARS 4 THROUGH 30 OF \$35,000.

THE PRESENT WORTH VALUE FOR THE OPERATION AND MAINTENANCE COSTS FOR 30 YEARS AT A 10 PERCENT DISCOUNT RATE WOULD BE \$398,000 WHILE THE TOTAL COSTS WOULD BE \$914,000. COSTS NECESSARY FOR PERSONNEL, EQUIPMENT, AND LABORATORY ANALYSES CAN BE FOUND IN APPENDIX R OF THE RI REPORT. THE CAPITAL COSTS FOR THE LEACHATE COLLECTION SYSTEM WOULD CONSIST OF MATERIALS, EQUIPMENT AND LABOR, ENGINEERING, AND HEALTH AND SAFETY. A SENSITIVITY ANALYSIS WAS PERFORMED ON THE INSTALLATION OF THE LEACHATE COLLECTION SYSTEM WITH 20 PERCENT VARIATION IN THE MATERIALS AND LABOR TO UPGRADE THE PRESENT SYSTEM CAUSING THE CAPITAL COSTS TO VARY FROM \$74,000 TO \$110,000. A SENSITIVITY ANALYSIS WAS ALSO PERFORMED ON THE VOLUME OF MATERIAL REQUIRED FOR REGRADING. A 10 PERCENT VARIATION IN THE VOLUME WOULD CAUSE THE CAPITAL COSTS TO VARY FROM \$375,000 TO \$459,000. ADDING THESE FACTORS TO THE SENSITIVITY ANALYSIS WOULD CAUSE THE TOTAL PRESENT WORTH COSTS TO VARY FROM \$820,000 TO \$1,008,000. THE COSTS AND SENSITIVITY ANALYSIS ARE SUMMARIZED IN TABLES 12 AND 13. HOWEVER, THESE COSTS CAN BE REDUCED IF LEACHATE COLLECTION, REGRADING AND REVEGETATION ARE ACCOMPLISHED BY THE IMMEDIATE REMOVAL SECTION (ERCS CONTRACT) OR REGION IV, EPA.

ALTERNATIVE SUGGESTED BY PUBLIC AT PUBLIC MEETINGS

THE MAJORITY OF THE PARTICIPANTS AT THE MEETING DEFERRED TO THE JUDGEMENT OF BOTH THE FEDERAL, AND LOCAL OFFICIALS WHO WERE UNDECIDED. THE ALTERNATIVE RECOMMENDED BY SEVERAL RESIDENTS OF CAMPBELL COUNTY WAS ALTERNATIVE 1. ALTERNATIVE 1 IS BOTH ENVIRONMENTALLY AND POLITICALLY UNACCEPTABLE BECAUSE IT WOULD NOT MEET THE CLEANUP CRITERIA ESTABLISHED BY THE EPA OR STATE OF KENTUCKY.

#OEL

CONSISTENCY WITH OTHER ENVIRONMENTAL LAWS

IT IS EPA POLICY TO GIVE PRIMARY CONSIDERATION TO REMEDIAL ACTIONS THAT ATTAIN OR EXCEED APPLICABLE OR RELEVANT FEDERAL ENVIRONMENTAL OR PUBLIC HEALTH STANDARDS.

STATE AND LOCAL STANDARDS SHOULD ALSO BE CONSIDERED, HOWEVER STATE STANDARDS THAT ARE MORE STRINGENT THAN FEDERAL STANDARDS MAY FORM BASIS FOR THE REMEDY ONLY IF THE RESULT IS CONSISTENT WITH THE COST EFFECTIVE REMEDY BASED ON FEDERAL STANDARDS. THE STATE MAY ALSO PAY THE ADDITIONAL COST NECESSARY TO ATTAIN THE STATE STANDARD(S).

THE ENVIRONMENTAL OR PUBLIC HEALTH LAWS WHICH MAY BE RELEVANT OR APPLICABLE TO THE SITE ARE:

- RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) THE RCRA REQUIREMENTS FOR GROUNDWATER CLEANUP LEVELS WILL APPLY TO FINAL ACTION AT THE SITE. ANY REQUIREMENTS FOR SOIL REMOVAL AND DISPOSAL ARE NOT APPLICABLE.
- FLOODPLAIN MANAGEMENT EXECUTIVE ORDER 11988 (E.O. 11988).

THE PURPOSE OF THIS CHAPTER IS TO IMPLEMENT EXECUTIVE ORDER 11988, MAY 24, 1977, 42 F.R. 26951

ENTITLED FLOODPLAIN MANAGEMENT.

THIS ORDER REQUIRES THE EVALUATION OF POTENTIAL EFFECTS OF ACTIONS TAKEN IN A FLOODPLAIN TO REDUCE THE RISK OF FLOOD LOSS, TO MINIMIZE THE IMPACT OF FLOODS ON HUMAN SAFETY, HEALTH AND WELFARE, AND TO RESTORE AND PRESERVE THE NATURAL AND BENEFICIAL VALUES SERVED BY FLOODPLAINS.

- CLEAN WATER ACT (CWA)

THE ACTION PROPOSED AT THE SITE BY THIS DOCUMENT WILL COMPLY WITH THE REQUIREMENTS OF THE ACT SINCE THERE IS NO SURFACE WATER CONTAMINATION ATTRIBUTABLE TO THIS SITE.

- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.

ANY APPLICABLE OSHA REQUIREMENTS WILL BE ADDRESSED DURING THE DETAILED DESIGN PHASE OF THE SELECTED ALTERNATIVE. OSHA REQUIREMENTS ADDRESS SUCH CONCERNS AS ON-SITE WORKER SAFETY AND HEALTH. ALL ALTERNATIVES CAN BE DESIGNED TO BE IN FULL COMPLIANCE WITH OSHA REQUIREMENTS.

- GROUNDWATER PROTECTION STRATEGY (GWPS)

THE GWPS IS AN APPLICABLE STANDARD FOR THIS SITE. THE LEVELS RECOMMENDED BY THE REGION IV OFFICE OF GROUNDWATER PROTECTION ARE FOUND IN TABLE 8 OF THIS REPORT.

- DEPARTMENT OF TRANSPORTATION

DOT REQUIREMENTS FOR MOVEMENTS OF HAZARDOUS WASTES, WILL ADDRESS ANY LEACHATE COLLECTED ABOVE THE ALTERNATE CONCENTRATION LIMITS LISTED IN TABLE 8.

- OTHER APPLICABLE LAWS (SEE TABLE 7).

#OM

OPERATION AND MAINTENANCE (O&M)

THIS REMEDY WILL REQUIRE AT LEAST 10 WEEKS TO IMPLEMENT WITH A DESIGN LIFE OF 30 YEARS. THIS TIME LIMIT DEPENDS ON THE DESIGN, AND OPERATION OF THE OPERABLE UNITS AND FUTURE ACTIVITY AT THE SITE. THE OPERATING COSTS WILL BE FOR THE IMPLEMENTATION AND THE OPERATION OF THE LEACHATE COLLECTION, REGRADING, REVEGETATING, AND MONITORING WELLS AND MAINTENANCE OF THESE UNITS. AFTER THE REMEDY IS IMPLEMENTED (10 WEEKS) THE COST REQUIRED WILL BE TO MAINTAIN THE RESTORED SITE, AND PERIODIC MONITORING TO INSURE THE PERMANENCE OF THE REMEDY.

AS REQUIRED BY CERCLA, 104 (C)(1) AMENDED BY SARA (PL 99-499),

("THE STATE WILL PAY OR ASSURE PAYMENT OF ...(II) 50 PERCENT (OR SUCH GREATER AMOUNT AS THE PRESIDENT MAY DETERMINE APPROPRIATE, TAKING INTO ACCOUNT THE DEGREE OF RESPONSIBILITY OF THE STATE OR POLITICAL SUBDIVISION FOR THE RELEASE) OF ANY SUMS EXPENDED IN RESPONSE TO A RELEASE AT A FACILITY, THAT WAS OPERATED BY THE STATE OR A POLITICAL SUBDIVISION....").

RESPONSE HAS BEEN DEFINED IN SARA AS A "REMEDIAL ACTION" AS INCLUDING ALL CONSTRUCTION AND IMPLEMENTATION ACTIVITIES UNTIL SITE REMEDIATION IS COMPLETED. ACTIVITIES REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE REMEDY FOLLOWING COMPLETION OF THE REMEDIAL ACTION IS CONSIDERED OPERATION AND MAINTENANCE (O&M). IF SURFACE WATER OR GROUNDWATER TREATMENT IS PART OF THE REMEDY, ONLY THE FIRST TEN YEARS OF SUCH TREATMENT WILL BE CONSIDERED AS REMEDIAL ACTION; THE REMAINING PERIOD OF TREATMENT WILL BE A PART OF O&M ACTIVITIES. THE STATE IS REQUIRED TO PAY 100 PERCENT OF ALL O&M FOLLOWING COMPLETION OF THE REMEDIAL ACTION. EPA AND THE STATE MAY ENTER INTO AN AGREEMENT WHEREBY EPA WOULD FUND 90 PERCENT OF O&M COSTS, FOR A PERIOD NOT TO EXCEED ONE YEAR, DURING WHICH THE REMEDY IS DETERMINED TO BE OPERATIONAL AND FUNCTIONAL.

#SCH
SCHEDULE

THE PLANNED SCHEDULE FOR COMPLETION OF THE CLEANUP AT THE NEWPORT DUMP SITE IS AS FOLLOWS:

MARCH 27, 1987	RECORD OF DECISION
SEPTEMBER 30, 1987	REMEDIAL DESIGN COMPLETED
DECEMBER 1, 1987	REMEDIAL ACTION COMMENCES.

THIS SCHEDULE IS CONTINGENT UPON THE SIMULTANEOUS AVAILABILITY OF BOTH FEDERAL AND STATE FUNDING. AT WHICH TIME, 6 MONTHS WILL BE REQUIRED FOR DESIGN AND TO SELECT A CONTRACTOR, AFTER WHICH APPROXIMATELY 10 WEEKS OF ACTIVITY WILL CULMINATE IN A FULL STABILIZATION OF THE WASTE SOURCE AND GROUNDWATER CONTAMINATION AT THE SITE.

#FA
FUTURE ACTION

AS PART OF THE DESIGN, ADDITIONAL INVESTIGATION WILL BE PERFORMED TO COMPLETELY DEFINE THE EXTENT OF CONTAMINATION. THIS ACTION IS NOT A COMPLETE CLEANUP REMEDY AND ANY FUTURE ACTION WILL DEPEND ON THE MONITORING ANALYSIS RESULTS. SUBTITLE D CLOSURE ACTIVITIES SHOULD COMMENCE AFTER THE OPERABLE UNITS ARE CONSTRUCTED AND IMPLEMENTED AT THE SITE.

#TMA

TABLES, MEMORANDA, ATTACHMENTS

#RS

COMMUNITY RELATIONS RESPONSIVENESS

SUMMARY

NEWPORT DUMP SITE

CAMPBELL COUNTY

WILDER, KENTUCKY

INTRODUCTION

FOR THE PUBLIC RECORD, THIS SUMMARY DOCUMENTS QUESTIONS AND COMMENTS RAISED DURING THE PUBLIC MEETING AND COMMENT PERIOD ON THE NEWPORT DUMP REMEDIAL ACTION/FEASIBILITY STUDY. CONCERNS RAISED DURING THE COMMENT PERIOD FROM MARCH 3, TO MARCH 24, WERE RESPONDED TO BY THE REMEDIAL PROJECT MANAGER OF THE NEWPORT DUMP SITE.

AT THE MARCH 3, NEWPORT PUBLIC MEETING THE CAMPBELL COUNTY RESIDENTS AND LOCAL ADMINISTRATORS WERE INTERESTED IN THE FINAL RESULTS OF THE INVESTIGATION. THE INFORMATION REPOSITORY WAS PLACED AT THE CAMPBELL COUNTY PUBLIC LIBRARY, NEWPORT, KY. SEVERAL NOTEWORTHY COMMENTS MADE AT THE PUBLIC MEETING WERE:

1. ONE RESIDENT STATED THAT FROM 1976 TO 1979 FORMER EMPLOYEES AT THE SITE OBSERVED NUMEROUS TRUCKS DUMPING SEALED BARRELS AT THE SITE ON A REGULAR BASIS. THE QUESTION WAS RAISED WHETHER THE INVESTIGATION WAS EXTENSIVE ENOUGH TO REALIZE THE IMPLICATIONS THE BURIAL OF DRUMS MIGHT HAVE FIVE OR TEN YEARS HENCE.

RESPONSE: THE SUBSURFACE AREA IN QUESTION WAS IN THE WESTERN SECTION OF THE SITE. SEVERAL WELLPOINTS WERE DRILLED IN THAT AREA AND ANY LEACHING MATERIAL FROM THE DETERIORATING DRUMS OR SHALLOW AQUIFER WAS PINPOINTED IN THE GROUNDWATER SAMPLE ANALYSIS. SUBSEQUENT REMEDIAL DESIGN WORK WILL EXPLORE THIS AREA FURTHER USING EM SURVEY EQUIPMENT AND DRILLING BOREHOLES.

2. ANOTHER RESIDENT NAMED A POSSIBLE EYEWITNESS TO SOME OF THE ILLEGAL DUMPING THAT TRANSPIRED BEFORE THE SITE WAS CLOSED IN 1980 (SEE COURT REPORTER TRANSCRIPT).

3. PUBLIC ADMINISTRATORS OF THE CITY OF NEWPORT AND NORTHERN KENTUCKY PORT AUTHORITY RAISED CONCERNS OVER SOME OF THE MORE EXPENSIVE ALTERNATIVES I.E. SOLIDIFICATION AND EXCAVATION THAT WERE RECOMMENDED IN THE FEASIBILITY STUDY. THEY INDICATED THAT ANY REMEDY COSTING AS MUCH AS ONE MILLION DOLLARS WOULD BE IMPOSSIBLE TO MEET CONSIDERING THE PRESENT FINANCIAL STATUS OF THE MUNICIPALITIES.

ASIDE FROM THE PRESENTATION GIVEN BY EPA, THE ABOVE COMMENTS WERE THE FOCUS OF DISCUSSION DURING THE QUESTION AND ANSWER PERIOD. THE COMMENT PERIOD FOR THE SITE WENT FROM MARCH 3, 1987, THRU MARCH 24, 1987, ONE LETTER WAS RECEIVED FROM A CONCERNED CITIZEN. THIS LETTER HAS BEEN COPIED AND ATTACHED TO THIS REPORT.

LETTERS AND RESPONSES ADDRESSING COMMUNITY CONCERNS

1. FICHTER AND SEILER, ATTORNEYS AT LAW RESIDING IN CINCINNATI, OHIO WROTE A LETTER TO THE EPA CONCERNED WITH FORMER EMPLOYEES OF THE NEWPORT DUMP SITE OBSERVING THE DUMPING OF SEALED BARRELS AT THE SITE FROM 1976 TO 1979. THESE INDIVIDUALS NOTED THAT THE DUMPING OCCURRED IN THE WESTERN PORTION OF THE SITE HOWEVER THEY HAD NO KNOWLEDGE AS TO THE CONTENT OF THE BARRELS. THE AUTHOR OF THE LETTER, MR. LEWIS SEILER FELT THAT THE REMEDIAL INVESTIGATION MADE NO ATTEMPT TO DISCOVER THE LOCATION AND EFFECTS OF THE POSSIBLE LEAKING OF DETERIORATING DRUMS BELOW THE SURFACE. IT

IS MR. SEILER'S OPINION THAT A SELECTION OF AN ALTERNATIVE WOULD BE PREMATURE AT THIS POINT UNTIL A CAREFUL INVESTIGATION IS MADE OF AREAS WHERE THE ALLEGED DRUMS WERE BURIED.

RESPONSE

DURING THE INVESTIGATION WELLPOINTS WERE PLACED IN THE AREA WHERE THE DRUMS WERE PRESUMABLY BURIED IN THE SUBSURFACE. ANY DISCHARGE FROM THE BURIED MATERIAL WAS OBSERVED DURING THE SAMPLING OF THESE WELLPOINTS. NO HARMFUL EFFECTS OF THIS LEACHING MATERIAL WAS NOTED IN THE SURFACE WATER OR THE KENTON COUNTY INTAKE. FURTHER INVESTIGATION AND MONITORING OF THIS AREA WILL TAKE PLACE DURING THE REMEDIAL DESIGN AND REMEDIAL ACTION PHASE.

REMAINING CONCERNS

OTHER ISSUES INVOLVE THE FUTURE LAND USE OF THE SITE PROPOSED BY THE CITY OF NEWPORT AND THE NKPA, AND KENTUCKY STATE FUNDING FOR THE SELECTED REMEDIAL ALTERNATIVE, ALTERNATIVE #3. THE MAIN CONCERN IS THAT ANY PROPOSED LAND RENOVATION AND DECLARATION AT THE SITE COULD CURTAIL THE DESIGN LIFE OF THE REMEDIAL ALTERNATIVE SELECTED AND AFFECT THE STABILITY OF THE SITE. A PUBLIC HEALTH AND ENVIRONMENTAL EVALUATION WOULD BE NECESSARY AFTER THE REMEDIAL ACTION IS IMPLEMENTED AND BEFORE ANY FURTHER CONSTRUCTION AND LAND RENOVATION TAKES PLACE AT THE NEWPORT DUMP SITE.

FICHTER & SEILER

MR. DENNIS MANGANIELLO
EMERGENCY & REMEDIAL RESPONSE BRANCH
U.S. ENVIRONMENTAL PROTECTION AGENCY
345 COURTLAND ST. N.E.
ATLANTA, GA 30365

RE: NEWPORT DUMP SITE
WILDER, CAMPBELL COUNTY, KY

MARCH 3, 1987

DEAR MR. MANGANIELLO:

I AM WRITING TO YOU IN MY CAPACITY AS THE ATTORNEY FOR TWO FORMER EMPLOYEES AT THE NEWPORT DUMP SITE. THESE INDIVIDUALS HAVE ADVISED ME THAT DURING THEIR EMPLOYMENT AT THE SITE BETWEEN THE YEARS OF 1976 AND 1979 THEY OBSERVED NUMEROUS TRUCKS DUMPING SEALED BARRELS CONTAINING LIQUID AT THE SITE ON A REGULAR BASIS, AND FURTHER THAT SAID TRUCKS BELONGED TO THE KING WRECKING COMPANY OF CINCINNATI, OHIO. MY CLIENTS ADVISED ME THAT THE DUMPING OF SUCH BARRELS OCCURRED AT LEAST SEVERAL TIMES A WEEK, AND ALTHOUGH SAID DUMPING WAS BY NO MEANS LOCALIZED THAT IT GENERALLY OCCURRED IN THE WESTERN PORTION OF THE DUMPSITE IN THE AREAS JUST NORTH OF THE UNNAMED STREAM AND FURTHER ALONG THE WESTERN EDGE OF THE SITE. WHILE MY CLIENTS HAD NO KNOWLEDGE AS TO THE CONTENT OF THE BARRELS WHICH THEY OBSERVED, THIS INFORMATION IS CLEARLY CAUSE FOR CONCERN, GIVEN THE PROXIMITY OF THE SITE TO THE INTAKE INLETS FOR THE KENTON COUNTY WATER SYSTEM.

I HAVE CAREFULLY REVIEWED THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY OF ALTERNATIVES REGARDING THE NEWPORT DUMP SITE PREPARED FOR THE EPA, AND THIS REVIEW ONLY HAS CREATED FURTHER CONCERN ON MY PART. THE STUDY CONCENTRATES ITS ATTENTION ON DETERMINING THE NATURE AND EXTENT OF THE CONTAMINANTS PRESENTLY LEACHING FROM THE DUMP SITE. HOWEVER, IT IS FRIGHTENINGLY EVIDENT THAT THE STUDY MADE NO ATTEMPT TO ASCERTAIN WHAT IS ACTUALLY ON SITE, BUT NOT YET LEAKING. AN EXAMPLE OF SUCH MATERIAL WOULD BE TOXIC WASTES IN BARRELS WHICH ARE DETERIORATING WITH AGE BUT WHICH HAVE NOT YET STARTED TO LEAK.

ELECTROMAGNETIC READINGS WERE TAKEN ALONG THE PERIMETER OF THE SITE IN ORDER TO ASCERTAIN THE SITE'S PROBABLE BOUNDARIES (SEE STUDY PAGE 3-10). THE ELECTROMAGNETIC STUDY (EM STUDY) INDEED DID REVEAL AN AREA ALONG THE SOUTHERN PERIMETER OF THE SITE AND RIGHT ADJACENT TO THE UNNAMED STREAM WHICH FLOWS INTO THE LICKING RIVER, WHICH CONTAINED HIGHER THAN EXPECTED EM READINGS. THIS AREA WAS DESIGNATED AS "AREA C" IN THE STUDY, WHICH DREW THE FOLLOWING CONCLUSION REGARDING THE AREA:

"AREA C, LOCATED SOUTH BETWEEN THE LANDFILL AND THE UNNAMED STREAM IS AN ANOMALOUS AREA OF HIGH AND LOW CONDUCTIVITY VALUES WITH RESPECT TO OFFSITE BACKGROUND CONDITIONS. IT IS SUSPECTED THAT THIS ANOMALY IS REPRESENTATIVE OF EITHER BURIED FILL MATERIALS, BURIED FERROUS OBJECTS, OR A HIGH CONCENTRATION OF CHEMICAL CONSTITUENTS IN A SOLID, LIQUID, OR SLUDGE FORM. (STUDY AT PAGE 3-13).

IN OTHER WORDS, IT IS SUSPECTED THAT THIS AREA MAY CONTAIN BARRELS, OR HIGH CONCENTRATIONS OF POTENTIALLY DANGEROUS CHEMICALS. YET AMAZINGLY ENOUGH, THIS AREA WAS NOT EXCAVATED, NOR EVEN BORED INTO IN ORDER TO ASCERTAIN THE NATURE OF THE MATERIAL LOCATED IN AREA C. A REVIEW OF THE SOIL BORINGS PERFORMED (SEE PAGE 4-12, FIGURE 4-3) REVEALS THAT NO BORINGS WERE TAKEN IN THE ANOMALOUS AREA, AND INDEED THE APPENDIX AT PAGE B-7 INDICATES THAT EM READINGS WERE GENERALLY USED IN ORDER TO AVOID STRIKING BURIED FERROUS OBJECTS.

INTERESTINGLY ENOUGH, THE EM FINDINGS ARE ENTIRELY CONSISTENT WITH THE FACTS PROVIDED TO ME BY MY CLIENTS, NAMELY THAT THEY OBSERVED BARRELS BEING BURIED IN AND AROUND "AREA C".

IT IS THE OPINION OF THE UNDERSIGNED AND MY CLIENTS THAT A CAREFUL INVESTIGATION MUST BE MADE AS TO THE NATURE OF THE BURIED MATERIAL BEFORE AN APPROPRIATE TREATMENT PLAN CAN BE DETERMINED FOR THE SITE. IF INDEED THERE ARE A LARGE NUMBER OF BURIED BARRELS ON SITE WHICH CONTAIN HAZARDOUS MATERIALS, THERE MAY WELL BE A MUCH GREATER DANGER TO THE SURROUNDING COMMUNITY AND TO THE KENTON COUNTY WATER SUPPLY THAN IS PRESENTLY REALIZED. THIS ISSUE SHOULD BE FULLY AND CAREFULLY ADDRESSED BEFORE A FINAL ALTERNATIVE IS SELECTED.

SINCERELY YOURS,

LEWIS SEILER.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REF: 4WD-ER

FICHTER & SEILER
ATTORNEYS AT LAW
2056 EASTERN AVENUE
CINCINNATI, OHIO 4520

DEAR MR. SEILER:

I AM WRITING TO YOU IN RESPONSE TO YOUR MARCH 3, 1987, LETTER REGARDING THE SITUATION AT THE NEWPORT DUMP SITE. DURING THE INVESTIGATION WELL-POINTS WERE PLACED IN THE AREA WHERE THE DRUMS WERE PRESUMABLY BURIED IN THE SUBSURFACE. ANY DISCHARGE FROM THE BURIED MATERIAL WAS OBSERVED DURING THE SAMPLING OF THESE WELLPOINTS. NO HARMFUL EFFECTS OF THIS LEACHING MATERIAL WAS NOTED IN THE SURFACE WATER OR THE KENTON COUNTY INTAKE. FURTHER INVESTIGATION AND MONITORING OF THIS AREA WILL TAKE PLACE DURING THE REMEDIAL DESIGN AND REMEDIAL ACTION PHASE. THE IMPLEMENTATION OF THE REMEDIAL ACTION WILL TAKE PLACE WITHIN THE YEAR. BASED ON THE EPA FINDINGS AND THE UPCOMING REMEDIAL ACTION I BELIEVE THAT THE DETERMINATION OF A REMEDY PRIOR TO PERFORMING ANY ADDITIONAL MONITORING WAS A REASONABLE AND NECESSARY DECISION AND IN THE BEST INTEREST OF THE PUBLIC WELFARE.

THE NEWPORT DUMP SITE RECORD OF DECISION WILL BE MADE AVAILABLE FOR REVIEW AT THE CAMPBELL COUNTY PUBLIC LIBRARY AND CITY CLERK'S OFFICE LOCATED IN NEWPORT, KY. YOUR LETTER AND THIS RESPONSE ARE CONSIDERED AS PART OF THE RECORD OF DECISION. IF YOU HAVE ANY QUESTIONS ABOUT THIS RESPONSE OR THE DECISION, PLEASE CALL ME AT (404) 347-2234.

SINCERELY,

DENNIS J. MANGANIELLO
NEWPORT DUMP SITE PROJECT MANAGER
EMERGENCY AND REMEDIAL RESPONSE BRANCH.

JEFFREY J. HARMON

24 MARCH 1987

MR. DENNIS MANGANIELLO
EMERGENCY AND REMEDIAL RESPONSE BRANCH
U.S. ENVIRONMENTAL PROTECTION AGENCY
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

RE: NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY

DEAR MR. MANGANIELLO:

I HAVE ENCLOSED FOR YOUR REVIEW COMMENTS ON THE PROPOSED REMEDIAL ALTERNATIVES FOR THE NEWPORT DUMP SITE IN CAMPBELL COUNTY, KENTUCKY. I AM SUBMITTING THESE COMMENTS ON BEHALF OF THE CITY OF NEWPORT, KENTUCKY AND THE NORTHERN KENTUCKY PORT AUTHORITY. I UNDERSTAND FROM OUR TELEPHONE CONVERSATION OF THURSDAY, MARCH 19, 1987 THAT YOUR RECEIPT OF THESE COMMENTS AFTER MARCH 24, 1987 WILL STILL BE CONSIDERED TIMELY AND THE COMMENTS WILL BE INCORPORATED INTO THE FORMAL RECORD.

IF YOU HAVE ANY QUESTIONS CONCERNING THE COMMENTS, DO NOT HESITATE TO CONTACT ME.

THANK YOU VERY MUCH FOR YOUR COOPERATION IN THIS MATTER. I LOOK FORWARD TO RECEIVING YOUR RESPONSE TO THE COMMENTS AND THE ULTIMATE DECISION ON THE SELECTION OF THE APPROPRIATE ALTERNATIVE FOR REMEDIAL ACTION.

VERY TRULY YOURS,

JEFFREY J. HARMON

JJH/LR.

COMMENTS REGARDING
SELECTION OF REMEDIAL MEASURES

NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY

SUBMITTED TO:

MR. DENNIS MANGANIELLO
EMERGENCY AND REMEDIAL RESPONSE BRANCH
U.S. ENVIRONMENTAL PROTECTION AGENCY
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

SUBMITTED BY:

JEFFREY J. HARMON, ESQ.
2008 CAREW TOWER
CINCINNATI, OHIO 45202
(513) 891-4455

ON BEHALF OF:

CITY OF NEWPORT
FOURTH AND YORK STREETS
NEWPORT, KENTUCKY 41071

AND

NORTHERN KENTUCKY PORT AUTHORITY
400 LICKING PIKE
WILDER, KENTUCKY 41071.

NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY

I. INTRODUCTION

THE CITY OF NEWPORT, KENTUCKY (NEWPORT) AND THE NORTHERN KENTUCKY PORT AUTHORITY (NKPA) JOINTLY SUBMIT THE FOLLOWING COMMENTS REGARDING THE SELECTION BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) OF THE APPROPRIATE REMEDIAL MEASURES FOR THE NEWPORT DUMP SITE (THE SITE) LOCATED IN CAMPBELL COUNTY, KENTUCKY. NEWPORT AND NKPA ARE SUBMITTING THESE COMMENTS IN CONNECTION WITH THE PUBLIC COMMENT PROCESS WHICH THE EPA IS CONDUCTING WITH RESPECT TO THE SITE.

THESE COMMENTS ARE BASED PRIMARILY UPON A REVIEW OF THE REPORT OF THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS) CONDUCTED FOR THE SITE; DISCUSSIONS WITH CURRENT OR FORMER REPRESENTATIVES OF NEWPORT AND THE NKPA CONCERNING THE SITE; INFORMATION OBTAINED AT THE PUBLIC MEETING CONDUCTED BY THE EPA ON MARCH 3, 1987 AT THE CAMPBELL COUNTY COURTHOUSE; AND THE REVIEW OF THE CLOSURE PLAN PREPARED FOR THE NEWPORT LANDFILL APPROVED BY THE KENTUCKY DEPARTMENT FOR NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION AND RELATED AGREED ORDERS.

II. RESERVATION OF RIGHTS

IN SUBMITTING THESE COMMENTS NEITHER NEWPORT NOR NKPA CONCEDES THAT IT IS A "RESPONSIBLE PARTY"

UNDER THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT, 42 U.S.C. SECTIONS 9601, ET SEQ. (CERCLA), OR A "PERSON" UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT, 42 U.S.C. SECTIONS 6901, ET SEQ. (RCRA), IN CONNECTION WITH THE SITE. IN ADDITION, NEWPORT AND NKPA DENY ANY LIABILITY UNDER CERCLA, RCRA, OR ANY OTHER STATUTE, REGULATION, OR LAW GOVERNING THE USE AND DISPOSAL OF HAZARDOUS WASTE, POLLUTANTS, CONTAMINANTS AND SUBSTANCES.

IN SUBMITTING THESE COMMENTS NEITHER NEWPORT NOR NKPA CONDUCTED AN INDEPENDENT INQUIRY INTO THE ACCURACY OR COMPLETENESS OF THE FINDINGS AND CONCLUSIONS IN THE RI/FS. THEREFORE, NEWPORT AND NKPA RESERVE ALL RIGHTS TO CHALLENGE THE SELECTION OF REMEDIAL MEASURES BY THE EPA TO BE IMPLEMENTED AT THE SITE AND THE FINDINGS AND CONCLUSIONS IN THE RI/FS AND ALL RELATED DOCUMENTS AND STUDIES. THESE COMMENTS SHOULD NOT BE INTERPRETED AS A COMMITMENT TO EXPEND ANY FUNDS IN CONNECTION WITH THE SITE.

III. SUMMARY OF RECOMMENDATION

BECAUSE THE RI/FS REVEALS THAT THE NEWPORT DUMP SITE POSES NO PRESENT THREAT TO HUMAN HEALTH OR THE ENVIRONMENT AND WILL NOT LIKELY POSE SUCH A THREAT FOR A CONSIDERABLE PERIOD OF TIME, IF EVER, NEWPORT AND NKPA SUBMIT THAT, AT A MAXIMUM, ALTERNATIVE 3 INVOLVING MONITORING, LEACHATE COLLECTION, AND REGRADING AND REVEGETATION SHOULD BE SELECTED FOR THE SITE.

IV. COMMENTS

THE SELECTION OF ALTERNATIVE 3 SET FORTH IN THE RI/FS WOULD BE CONSISTENT WITH BOTH CERCLA AND CURRENT EPA GUIDANCE ON SUPERFUND SELECTION OF REMEDY. THEREFORE, NEWPORT AND NKPA RECOMMEND THAT THE EPA, AT A MAXIMUM, CHOOSE ALTERNATIVE 3 AT THE APPROPRIATE REMEDIAL MEASURE ALTERNATIVE FOR THE SITE. HOWEVER, NEWPORT AND NKPA FURTHER CONTEND THAT THE REMEDIAL MEASURES CALLED FOR IN ALTERNATIVE 2 REQUIRING A MULTIMEDIA MONITORING PROGRAM WOULD ADEQUATELY PROTECT HUMAN HEALTH AND THE ENVIRONMENT UNDER THE CIRCUMSTANCES.

CONSISTENT WITH CERCLA AND EPA GUIDANCE, THE REMEDIAL ACTION CONTEMPLATED BY ALTERNATIVE 3 WILL: 1) PROTECT PUBLIC HEALTH, WELFARE AND THE ENVIRONMENT; 2) ATTAIN FEDERAL AND STATE PUBLIC HEALTH AND ENVIRONMENTAL REQUIREMENTS; AND 3) BE COST-EFFECTIVE.

PROTECTIVE OF PUBLIC HEALTH AND ENVIRONMENT

THE DOCUMENT ENTITLED, "SUPERFUND PROGRAM FACT SHEET, NEWPORT DUMP SITE, CAMPBELL COUNTY, KENTUCKY" WHICH THE EPA REGION IV MADE AVAILABLE AT THE MARCH 3, 1987 PUBLIC MEETING REGARDING THE SITE DESIGNATED ALTERNATIVE 3 AS THE "ALTERNATIVE THAT PROTECTS PUBLIC HEALTH, WELFARE AND THE ENVIRONMENT.". THE RI/FS CLEARLY SUPPORTS THIS POSITION.

ALTERNATIVE 3 CALLS FOR A NUMBER OF REMEDIAL MEASURES AT THE SITE INCLUDING:

- A MULTIMEDIA MONITORING PROGRAM
- REPAIR OF THE LEACHATE COLLECTION SYSTEM AND ITS EXPANSION TO THE NORTHEAST SLOPE
- INSTALLATION OF A COLLECTION BASIN AND PUMPING SYSTEM
- REGRADING AND REVEGETATION OF PORTIONS OF THE SITE.

THE RI/FS MAKES IT EMINENTLY CLEAR THAT THESE REMEDIAL MEASURES WILL PROPERLY SECURE THE SITE AND PROTECT HUMAN HEALTH AND THE ENVIRONMENT.

THESE MEASURES ARE CONSISTENT WITH WORK WHICH THE NKPA HAS VOLUNTARILY CONDUCTED AT THE SITE IN

CONNECTION WITH THE CLOSURE PLAN PREPARED FOR THE NEWPORT LANDFILL APPROVED BY THE KENTUCKY DEPARTMENT FOR NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION AND RELATED AGREED ORDERS ENTERED INTO RESPECTIVELY ON JULY 9, 1980 AND OCTOBER 30, 1984.

IT APPEARS THAT AT LEAST SOME OF THE WORK CALLED FOR IN ALTERNATIVE 3 MAY HAVE BEEN COMPLETED IN CONNECTION WITH CLOSURE OF THE SITE OR PREPARATION OF THE RI/FS. FOR EXAMPLE, A NUMBER OF MONITORING WELLS ARE IN PLACE AT THE SITE AND CAN BE USED TO IMPLEMENT THE MULTIMEDIA MONITORING PROGRAM. ALSO, A SUBSTANTIAL AMOUNT OF REGRADING AND REVEGETATION HAS TAKEN PLACE AT THE SITE. THE NKPA HAS EXPENDED APPROXIMATELY \$600,000.00 TOWARDS CLOSURE OF THE SITE TO DATE, WHICH REPRESENTS EFFORTS TO SECURE THE SITE WHICH LARGELY WILL NOT HAVE TO BE DUPLICATED.

THE SINGLE OVERRIDING REASON THAT THE NEWPORT DUMP SITE RECEIVED A SCORE ON THE HAZARD RANKING SYSTEM WHICH APPEARED TO JUSTIFY ITS INCLUSION ON THE NATIONAL PRIORITIES LIST IS THE CLOSE PROXIMITY DOWNSTREAM OF THE KENTON COUNTY DISTRICT ONE RAW WATER INTAKE. (RI/FS, 1-6) IN THE ABSENCE OF THIS FACTOR IT IS DOUBTFUL THAT THE SITE WOULD HAVE BEEN PLACED ON THE NPL.

THE RI/FS SUBSTANTIATES THE FACT THAT THE NEWPORT DUMP SITE DOES NOT POSE A THREAT OF CONTAMINATION OF THE WATER INTAKE. THE PRIMARY REASONS ARE: 1) THE RELEASE OF ONLY NEGLIGIBLE LEVELS OF CONTAMINANTS FROM THE SITE; AND 2) THE DILUTION RATE IN THE LICKING RIVER OF 41,667 TO 1. THE STUDY INDICATES THAT NO HARMFUL LEVELS OF CONTAMINANTS WERE FOUND NEAR THE WATER INTAKE WHICH KENTON COUNTY DISTRICT ONE MONITORS CONTINUOUSLY IN ANY EVENT. IN FACT THE STUDY STATES, "NO SITE-RELATED CONTAMINANTS WERE DETECTED IN THE SURFACE WATER IN (THE) LICKING RIVER.". (RI/FS, 5.37) WITH PERIODIC MONITORING TAKING PLACE AT THE SITE, IT APPEARS THAT THERE WILL BE MORE THAN AMPLE SAFEGUARDS AGAINST THE UNDETECTED RELEASE OF HARMFUL LEVELS OF CONTAMINANTS WHICH HAVE ANY CHANCE OF REACHING THE WATER INTAKE.

ANOTHER FACTOR WHICH DEMONSTRATES THE ABSENCE OF A LONG OR SHORT TERM THREAT TO HUMAN HEALTH OR THE ENVIRONMENT IS THAT THE PRIMARY CONTAMINANTS AT THE SITE APPEAR TO BE HEAVY METALS WHICH ARE RELATIVELY IMMOBILE. THERE ALSO APPEARS TO BE SOME CONTAMINATION AT THE SITE OF PCBS AND PAHS; HOWEVER THE ANALYSIS STRONGLY SUGGESTS THAT ADJACENT PROPERTIES MAY BE THE ULTIMATE SOURCE OF THESE CONTAMINANTS. THE PROPER REMEDIAL ACTION FOR THESE CONTAMINANTS WOULD ADDRESS THE SOURCE.

IT IS IMPORTANT TO NOTE, AS THE RI/FS DID, THAT THE SITE IS NOT CURRENTLY DEVELOPED AND DOES NOT SERVE AS THE DRINKING WATER SOURCE FOR ANYONE. THEREFORE, IN SITU MANAGEMENT OF THE WASTE AT THE SITE IS APPROPRIATE. SO LONG AS THE WASTE IS CONTAINED AT THE SITE, HUMAN CONTACT WITH THE WASTE WILL BE NEGLIGIBLE. WITH THE PROPER CAPPING AND VEGETATION, THERE IS NO REASON THAT THIS SITE CANNOT BE DEVELOPED IN A MANNER THAT WOULD NOT JEOPARDIZE HUMAN HEALTH.

IN ADDITION THE MUDDY LICKING RIVER EXPERIENCES MINIMAL RECREATIONAL USE SO THAT EVEN IN THE UNLIKELY EVENT THAT HARMFUL LEVELS OF CONTAMINANTS REACHED THE LICKING RIVER, THERE IS LITTLE CHANCE FOR HUMAN CONTACT WITH THE CONTAMINANTS. ALSO, THE IMPACT OF ANY SUCH CONTACT WOULD BE RENDERED NEGLIGIBLE BY THE DILUTION FACTOR MENTIONED ABOVE.

THE RI/FS SUBSTANTIATES THAT THE RISKS OF MIGRATION OF CONTAMINANTS FROM THE SITE THROUGH THE GROUNDWATER ARE MINIMAL. WITH THE HORIZONTAL GROUNDWATER VELOCITY AT THE SITE CALCULATED TO BE 4.4 FEET/YEAR AND A VERTICAL VELOCITY OF 0.05 FEET/YEAR, THE GROUNDWATER DOES NOT POSE A THREAT OF CONTAMINATING THE LICKING RIVER OR THE SURROUNDING AREA. PERHAPS THIS IS MOST DRAMATICALLY DEMONSTRATED BY THE CALCULATION IN THE RI/FS THAT IT WOULD TAKE 472 YEARS FOR GROUNDWATER TRAVEL TIME FROM THE UPGRADIENT BOUNDARY OF THE LANDFILL TO THE LICKING RIVER. THE RI/FS NOTES THAT "THE IMPACT OF GROUNDWATER DISCHARGE TO THE RIVER IS EXPECTED TO BE NEGLIGIBLE." (RI/FS, 4-50).

IN SHORT, THE RI/FS SUPPORTS THE PROPOSITION THAT THERE IS NO EVIDENCE OF RELEASE OF HARMFUL LEVELS OF CONTAMINANTS THROUGH ANY MEDIUM FROM THE SITE, AND THE CHANCES OF SUCH RELEASES IN THE FUTURE ARE MINIMAL. THE REMEDIAL MEASURES CALLED FOR IN ALTERNATIVE 3 WOULD FURTHER SECURE THE

SITE AND THEREFORE MEET THE STANDARD OF PROTECTING HUMAN HEALTH AND THE ENVIRONMENT.

ATTAINMENT OF FEDERAL AND STATE STANDARDS

THE RI/FS STATES:

"THE PUBLIC HEALTH EVALUATION PERFORMED DURING THE RI FOUND NO EVIDENCE OF ANY CURRENT PUBLIC HEALTH OR ENVIRONMENTAL CONCERNS ASSOCIATED WITH THE NEWPORT DUMP SITE. THE CONTAMINANT LEVELS IN THE SURFACE SOILS AND IN SURFACE WATER AND SEDIMENT DOWNSTREAM OF THE SITE WERE BELOW ALL ACCEPTED HEALTH CRITERIA; WHILE DILUTION OF SHALLOW GROUNDWATER CONTAMINANTS AS A RESULT OF DISCHARGE TO THE LICKING RIVER IS EXPECTED TO REDUCE THESE CONTAMINANTS TO NEGLIGIBLE LEVELS." (RI/FS, 1-12).

COST-EFFECTIVE REMEDY

THE RI/FS ATTRIBUTES AN ESTIMATED COST TO ALTERNATIVE 3 REMEDIAL MEASURES OF \$914,000. IN CONTRAST, ALTERNATIVE 4 INVOLVES THE ESTIMATED COAT OF \$17,175,000. THE ADDITIONAL REMEDIAL MEASURES CALLED FOR IN ALTERNATIVE 4 SIMPLY ARE NOT NECESSARY FOR THE PROTECTION OF THE PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT. THIS QUANTUM LEAP IN EXPENDITURES WITH NO CORRESPONDING BENEFITS TO HUMAN HEALTH OR THE ENVIRONMENT ARE NOT NECESSARY AND THEREFORE NOT MANDATED BY CERCLA. TO CHOOSE ALTERNATIVES 4, 5, OR 6 WOULD BE INCONSISTENT WITH CRITERIA OF COST-EFFECTIVENESS OF THE REMEDIAL MEASURES. CONSIDERATIONS OF COST-EFFECTIVENESS THEREFORE SUPPORT THE SELECTION OF ALTERNATIVE 3 AS THE MAXIMUM REMEDIAL MEASURES FOR THE NEWPORT DUMP SITE.

V. CONCLUSION

THE NEWPORT DUMP SITE DOES NOT POSE ANY CURRENT THREAT TO HUMAN HEALTH OR THE ENVIRONMENT AND IS NOT LIKELY TO POSE SUCH A THREAT IN THE FUTURE. THE REMEDIAL MEASURES CALLED FOR IN ALTERNATIVE 3 WOULD PROPERLY SECURE THE SITE AND PERMANENTLY CONTAIN ANY CONTAMINATION IN A MANNER PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT. THEREFORE, AT A MAXIMUM THE EPA SHOULD SELECT ALTERNATIVE 3 FOR THE REMEDIAL MEASURES TO BE IMPLEMENTED AT THE SITE.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REF: 4WD-ER

JEFFREY J. HARMON
ATTORNEY AT LAW
2008 CAREW TOWER
CINCINNATI, OHIO 45202

DEAR MR. HARMON:

THIS LETTER IS IN RESPONSE TO YOUR CORRESPONDENCE AND REVIEW COMMENTS OF MARCH 24, 1987, ON THE NEWPORT DUMP SITE INVESTIGATION AND PROPOSED REMEDIES. I CONCUR WITH YOUR POSITION THAT ALTERNATIVE 3 OF THE NEWPORT FEASIBILITY STUDY WOULD BE A COST-EFFECTIVE REMEDY THAT WILL ATTAIN APPROPRIATE, RELEVANT AND APPLICABLE PUBLIC HEALTH AND ENVIRONMENT STANDARDS. THE EPA HAS SELECTED THIS ALTERNATIVE AS THE REMEDY CHOSEN FOR REMEDIAL DESIGN AND REMEDIAL ACTION AT THE NEWPORT DUMP SITE. YOUR COMMENTS ARE IN ACCORDANCE WITH THE EPA FINDINGS PRESENTED IN BOTH THE REMEDIAL INVESTIGATION AND ENDANGERMENT ASSESSMENT REPORTS. YOU WILL BE ABLE TO FIND A COPY OF THE NEWPORT DUMP SITE RECORD OF DECISION AT THE CAMPBELL COUNTY PUBLIC LIBRARY, AND CITY CLERK'S OFFICE LOCATED IN NEWPORT, KENTUCKY. YOUR COMMENTS AND THIS RESPONSE ARE CONSIDERED AS PART OF THE RECORD OF DECISION. IF YOU HAVE ANY QUESTIONS ABOUT THIS RESPONSE OR THE DECISION PLEASE CALL ME AT (404) 347-2234.

SINCERELY,

DENNIS J. MANGANIELLO
NEWPORT DUMP SITE PROJECT MANAGER
EMERGENCY AND REMEDIAL RESPONSE BRANCH.

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET

MARCH 16, 1987

MR. RUSSELL WRIGHT
REMEDIAL SECTION
U.S. ENVIRONMENTAL PROTECTION AGENCY
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

DEAR MR. WRIGHT:

THE PURPOSE OF THIS LETTER IS TO COMMUNICATE THE COMMONWEALTH OF KENTUCKY'S RECOMMENDED ALTERNATIVE REMEDIAL ACTION FOR THE NEWPORT DUMP SITE IN CAMPBELL COUNTY, KENTUCKY. THE STATE HAS REVIEWED THE REMEDIAL INVESTIGATION/FEASIBILITY STUDY FOR THIS SITE AND RECOMMENDS ALTERNATIVE NO. 3: MONITORING, LEACHATE COLLECTION, AND REGRADING AND REVEGETATION, AS THE REMEDIAL ACTION TO BE IMPLEMENTED AT THIS SITE.

THIS RECOMMENDATION DOES NOT CONSTITUTE A COMMITMENT ON THE PART OF THE STATE TO MATCHING MONEY FOR THE REMEDIAL ACTION. AT THIS TIME, WE ARE MERELY STATING OUR PREFERENCE FOR THE RECOMMENDED ALTERNATIVE REMEDIAL ACTION.

SINCERELY,

J. ALEX BARBER, DIRECTOR
DIVISION OF WASTE MANAGEMENT

JAB/LM

CC: MR. DENNIS MANGANIELLO
JOHN BROOKS
BOB ERHLER
CAROLINE PATRICK HAIGHT
BARRY BURRUS.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV

DATE: FEB 20 1987

SUBJECT: REVIEW COMMENTS - NEWPORT DUMP SITE REVISED RI/FS

FROM: REGIONAL EXPERT HYDROLOGIST
GROUND-WATER TECHNOLOGY UNIT

TO: DENNIS MANGANIELLO
REMEDIAL PROJECT OFFICER
EMERGENCY AND REMEDIAL RESPONSE BRANCH

THRU: GAIL MITCHELL, CHIEF
GROUND-WATER TECHNOLOGY UNIT

FOLLOWING ARE COMMENTS ON THE REVISED NEWPORT DUMP SITE RI/FS AS REQUESTED BY ERRB ON FEBRUARY 3, 1987.

1. THE RI REPORT STILL INCLUDED STATEMENTS THAT CONTAMINATION IS MOVING BENEATH THE ALLUVIUM IN THE LICKING RIVER AND IS MIGRATING TOWARD THE OHIO RIVER WITH THE REGIONAL GROUND-WATER FLOW (PP. 4-48, 4-50, AND 4-95). HOWEVER, ON PAGE 4-89, THE REPORT CONTAINS A STATEMENT THAT:

"NO SIGNIFICANT LEVELS OF CONTAMINANTS WERE DETECTED IN THE DEEPER GROUND-WATER OFF-SITE IN THE FLOODPLAIN."

IF THERE IS NO EVIDENCE OF CONTAMINANT MIGRATION BENEATH THE LICKING RIVER TOWARD THE OHIO RIVER, STATEMENTS IMPLYING A REGIONAL CONTAMINATION PROBLEM ARE SPECULATIVE.

AS DISCUSSED IN OUR PREVIOUS COMMENTS, WE RECOMMEND THAT REGIONAL CONTAMINANT MIGRATION BE VERIFIED BY FLOW NET ANALYSES AND GROUND-WATER SAMPLING. OTHERWISE, THESE STATEMENTS SHOULD BE DELETED FROM THE REPORT.

2. THE SELECTED ALTERNATIVE COMPLIES WITH THE REQUIREMENTS OF SS121(B) OF SARA. SARA EMPHASIZES DESTRUCTION OR DETOXIFICATION OF HAZARDOUS WASTE BY EMPLOYING TREATMENT TECHNOLOGIES WHICH REDUCE TOXICITY, MOBILITY OR VOLUME RATHER THAN PROTECTION ACHIEVED THROUGH PREVENTION OF EXPOSURE. HOWEVER, THE COSTS AND POTENTIAL ADVERSE EFFECTS TO HUMAN HEALTH AND THE ENVIRONMENT ASSOCIATED WITH EXCAVATION, TRANSPORTATION AND TREATMENT FAR OUTWEIGH THE BENEFITS OF A REMEDIAL ALTERNATIVE THAT DESTROYS OR DETOXIFIES WASTES IN THE DUMP. WE CONCUR WITH THE REMEDIAL ALTERNATIVE RECOMMENDED IN THE FEASIBILITY STUDY.
3. THE HYDROGEOLOGIC AND CONTAMINATION DATA COLLECTED DURING THE RI INDICATES THAT THE REQUIREMENTS FOR ALTERNATE CONCENTRATION LIMITS (ACLS) UNDER SS121(D) OF SARA MAY BE MET AT THIS SITE. THE RI REPORT CONTAINS MOST OF THE INFORMATION REQUIRED TO DEVELOP ACLS, AND THEREFORE MEETS THE ARAR'S UNDER SS264.94 OF RCRA.

HOWEVER, SPECIFIC ACLS FOR EACH CONTAMINANT WERE NOT INCLUDED AS PART OF THE MONITORING PROGRAM IN THE RECOMMENDED ALTERNATIVE. WE RECOMMEND THAT THE FS BE REVISED TO INCLUDE THOSE ACLS. THE POINT OF EXPOSURE SHOULD BE CONSIDERED THE LICKING RIVER, AND THE DILUTED CONCENTRATION OF EACH HAZARDOUS CONSTITUENT SHOULD BE ESTIMATED AT THE HISTORICAL LOW FLOW IN THE RIVER. IF THESE CONCENTRATIONS IN THE RIVER DO NOT EXCEED AQUATIC TOXICITY CRITERIA, ACLS FOR EACH HAZARDOUS CONSTITUENT MAY BE DETERMINED BASED ON DILUTION IN SURFACE WATER AND ATTENUATION IN THE AQUIFER PRIOR TO DISCHARGE.

THE ALLUVIAL AQUIFER IS CLASSIFIED AS IIB, A POTENTIAL SOURCE OF DRINKING WATER UNDER THE NATIONAL GROUND-WATER PROTECTION STRATEGY, AND SHOULD THEREFORE RECEIVE THE BASELINE LEVEL OF PROTECTION REQUIRED UNDER CERCLA.

JOE HUGHART, P.G.

DEPARTMENT OF HEALTH & HUMAN SERVICES

DATE MARCH 31, 1987

FROM PUBLIC HEALTH ADVISOR
ATSDR-EPA LIAISON

SUBJECT NEWPORT DUMP NPL SITE;
COVINGTON COUNTY, KENTUCKY

TO DENNIS MANGANIELLO, PROJECT MANAGER
EPA ERRB RAS

AS REQUESTED, THE DRAFT RECORD OF DECISION, REMEDIAL ALTERNATIVES SELECTION HAS BEEN REVIEWED FOR ITS PUBLIC HEALTH ADEQUACY.

THE ATSDR'S HEALTH ASSESSMENT FOR THIS SITE CONCLUDED THAT THE PRESENT AND ANY POTENTIAL FUTURE HEALTH THREAT POSED BY THIS SITE IS MINIMAL. AS SUCH, WE CONCUR WITH YOU THAT THE PROPOSED ALTERNATIVES OF MONITORING, REGRADING, REVEGETATION AND LEACHATE COLLECTION PROVIDE SUFFICIENT PUBLIC HEALTH THREAT PROTECTION FOR THIS SITE.

CHUCK PIETROSEWICZ

CC: FILE
ATSDR/OEA.

TABLE 3
ORGANIC RESULTS OF SUBSURFACE SOIL SAMPLES
ONSITE WITHIN WASTE MATERIAL
NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY

PARAMETER (MG/KG)	OFFSITE CONTROL			ONSITE WASTE			
	SS-1A	SS-1B	SS-1C	SS-2A	SS-3A	SS-4A	SS-5A
	5 FEET	10 FEET	15 FEET	6 FEET	8 FEET	6 FEET	11 FEET
	11/85	11/85	11/85	11/85	11/85	11/85	11/85

EXTRACTABLE AND MISCELLANEOUS
COMPOUNDS

1,2,4-TRICHLOROBENZENE	-	-	-	79J	-	-	-
2-METHYLNAPHTHALENE	-	-	-	-	190J	-	-
ACENAPHENE	-	-	-	-	160J	-	-
ALKANOIC ACID	-	-	-	5,000J	-	-	-
ALKYL ACIDS/NO	-	-	-	-	-	-	-
ANTHRACENE	-	-	-	-	260J	-	-
BENZO (E) PYRENE	-	-	-	-	-	-	-
BENZO (GHI) PERYLENE	-	-	-	-	210J	-	-
BENZO(A)ANTHRACENE	-	-	-	-	490	-	-
BENZO(A)PYRENE	-	-	-	-	290J	-	-
BENZO(B AND/OR K)							
FLUORANTHENE	-	-	-	-	540	-	-
BENZYL BUTYL PHTHALATE	-	-	-	-	-	-	250J
BIS(2-ETHYLHEXYL)							
PHTHALATE	-	-	-	2,400	2,500	-	-
BUTYL 2-METHYLPROPYL							
PHTHALATE	-	-	-	-	-	-	-
CARENE	-	-	-	-	2,000JN	-	-
C15 ALKENE 92 ISOMERS	-	-	-	-	-	-	-
C3 ALKYL BENZENE	-	-	-	-	300JN	-	-
C4 ALKYLPHENANTHRENE	-	-	-	-	500JN	-	-
CHRYSENE	-	-	-	-	430	-	-

TABLE 3
 ORGANIC RESULTS OF SUBSURFACE SOIL SAMPLES
 ONSITE WITHIN WASTE MATERIAL
 NEWPORT DUMP SITE CAMPBELL COUNTY, KENTUCKY
 PAGE TWO

PARAMETER (MG/KG)	OFFSITE CONTROL			ONSITE WASTE			
	SS-1A	SS-1B	SS-1C	SS-2A	SS-3A	SS-4A	SS-5A
	5 FEET	10 FEET	15 FEET	6 FEET	8 FEET	6 FEET	11 FEET
	11/85	11/85	11/85	11/85	11/85	11/85	11/85
DIBENZOFURAN	-	-	-	-	190J	-	-
FLUORANTHENE	-	-	-	480	1,100J	200JN	-
FLUORENE	-	-	-	-	240J	-	-
HEXANOIC ACID	-	-	-	4,000J	-	-	-
IDENO (1,2,3-CD)	-	-	-	-	-	-	-
PYRENE	-	-	-	-	160J	-	-
ISOPHORONE	-	-	-	-	-	-	-
METHYLANTHRACENE	-	-	-	-	-	-	-
NAPHTHALENE	-	-	-	110J	440	-	-
PETROLEUM PRODUCT	-	-	-	N	N	-	-
PHENANTHRENE	-	-	-	310J	1,600	-	-
PYRENE	-	-	-	-	1,300	-	-
UNIDENTIFIED /NO	-	-	1,200J/2	-	-	400,000J/2	-

TABLE 3
 ORGANIC RESULTS OF SUBSURFACE SOIL SAMPLES
 ONSITE WITHIN WASTE MATERIAL
 NEWPORT DUMP SITE CAMPBELL COUNTY, KENTUCKY
 PAGE THREE

PARAMETER (MG/KG)	OFFSITE CONTROL			ONSITE WASTE			
	SS-1A	SS-1B	SS-1C	SS-2A	SS-3A	SS-4A	SS-5A
	5 FEET	10 FEET	15 FEET	6 FEET	8 FEET	6 FEET	11 FEET
	11/85	11/85	11/85	11/85	11/85	11/85	11/85
PURGEABLE AND MISCELLANEOUS COMPOUNDS							
1,1,1-TRICHLOROETHANE	-	-	-	-	-	-	-
1,1,2,2-TETRACHLOROETHANE	-	-	-	-	-	-	-
ACETONE	-	-	-	-	1,000J	-	700J
BENZENE	-	-	-	-	5.4	-	-
CARBON DISULFIDE	-	-	-	-	-	-	46
CHLOROBENZENE	-	-	-	-	-	1,300	-
CHLOROFORM	-	-	-	-	-	-	-
ETHYLBENZENE	-	-	-	14J	-	6,900	-
ISO-OCTANE	-	-	-	-	-	-	-
METHYL BUTYL KETONE	-	-	-	-	R	-	R
STYRENE	-	-	-	-	-	-	-
TOLUENE	14	-	-	-	-	1,600	-
TOTAL XYLENES	-	-	-	-	35	9,300	-
UNIDENTIFIED/NO	-	-	-	200J/2	-	-	-

TABLE 3
 ORGANIC RESULTS OF SUBSURFACE SOIL SAMPLES
 ONSITE WITHIN WASTE MATERIAL
 NEWPORT DUMP SITE CAMPBELL COUNTY, KENTUCKY
 PAGE FOUR

PARAMETER (MG/KG)	OFFSITE CONTROL			ONSITE WASTE			
	SS-1A	SS-1B	SS-1C	SS-2A	SS-3A	SS-4A	SS-5A
	5 FEET	10 FEET	15 FEET	6 FEET	8 FEET	6 FEET	11 FEET
	11/85	11/85	11/85	11/85	11/85	11/85	11/85

CHLORINATED PESTICIDES, PCBS,
 AND OTHER CHLORINATED
 COMPOUNDS

4,4'-DDD	-	-	-	-	22	-	-
4,4'-DDE	-	-	-	-	-	-	-
4,4'-DDT	-	-	-	-	-	-	-
DIELDRIN	-	-	-	-	-	-	-
PCB-1242 (AROCOR 1242)	-	-	-	-	730	-	-
PCB-1248 (AROCOR 1248)	-	-	-	-	-	-	-
PCB-1254 (AROCOR 1254)	-	-	-	-	-	-	-
PCB-1260 (AROCOR 1260)	-	-	-	-	290	-	-

- MATERIAL WAS ANALYZED FOR BUT NOT DETECTED ABOVE THE MINIMUM QUANTITATION LIMIT
 J ESTIMATED VALUE
 N PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
 R DATA UNUSABLE.

TABLE 4
BACKGROUND CONCENTRATIONS
NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY

INDICATOR CHEMICAL	SURFACE WATER (MG/L)	GROUNDWATER (MG/L)	SOIL (MG/KG)	SEDIMENT (MG/KG)
ARSENIC	ND	ND-0.095	ND-14J	ND
BARIUM	ND-0.079	ND-1.040	89-200J	ND-68
CHROMIUM (TOTAL)	ND	ND-0.254	7.0-24	ND-10
NICKEL	ND	ND-0.450	36-61	ND-33
BENZO(A)PYRENE	ND	ND	ND	ND
TOLUENE	ND	ND-0.028	ND-0.014	ND
PCBS	ND	ND	ND	ND

ND NOT DETECTED
J ESTIMATED VALUE.

TABLE 5
MEAN AND MAXIMUM OBSERVED CONCENTRATIONS
SURFACE WATER AND GROUNDWATER
NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY

INDICATOR CHEMICAL (MG/L)	SURFACE WATER		GROUNDWATER	
	MEAN	MAXIMUM	MEAN	MAXIMUM
ARSENIC	ND	ND	0.02	0.064
BARIUM	0.05	0.18	1.03	7.4
CHROMIUM (TOTAL)	ND	ND	0.16	1.5
NICKEL	ND	ND	0.29	2.4
BENZO(A)PYRENE	ND	ND	ND	ND
TOLUENE	0.0004	0.0031	0.0008	0.017
PCBS	ND	ND	ND	ND

ND NOT DETECTED.

TABLE 6
MEAN AND MAXIMUM OBSERVED CONCENTRATIONS
SOIL AND SEDIMENT
NEWPORT DUMP SITE
CAMPBELL COUNTY, KENTUCKY

INDICATOR CHEMICAL (MG/KG)	SURFACE SOIL		SUBSURFACE SOIL		SEDIMENT	
	MEAN	MAXIMUM	MEAN	MAXIMUM	MEAN	MAXIMUM
ARSENIC	5.8	10	6.9	15	1.6	8
BARIUM	1.7	97	173	800	66	120
CHROMIUM (TOTAL)	14	16	25.2	150	3.6	14
NICKEL	29	42	43.9	120	24	37
BENZO(A)PYRENE	ND	ND	0.15	2.3	ND	ND
TOLUENE	ND	ND	0.128	1.6	ND	ND
PCBS	0.007	52	0.06	1,020	ND	ND

ND NOT DETECTED.

TABLE 8
ACTUAL AND PROJECTED
CONCENTRATION LEVELS

INDICATOR	NEWPORT SITE (1)	PROPOSED (2)	HEALTH	PROJECTED
CHEMICALS	GROUNDWATER	ALTERNATE	BASE (3)	DILUTED
	CONCENTRATION	CONCENTRATION	CRITERIA	CONCENTRATION
	MG/L	LIMITS MG/L	MG/L	IN LICKING
				RIVER MG/L
ARSENIC	.064	.64	.05(MCL)	1.6 X 10
BARIUM	7.4	74	1(MCL)	1.85 X 10
CHROMIUM	1.5	15	.05(MCL)	3.75 X 10
NICKEL	2.4	24	.013(WQC)	6 X 10
BENZO(A)PYRENE	-	-	-	-
TOLUENE	.017	.17	.014(WQC)	4.2 X 10
PCBS	-	-	-	-

(1) ACTUAL CONCENTRATIONS OBSERVED IN THE GROUNDWATER DISCHARGE TO THE LICKING RIVER

(2) THESE CONCENTRATIONS ARE TEN TIMES THOSE PRESENTED IN COLUMN (1)

(3) ARAR'S LISTED IN TABLE 7

(4) PROJECTED CONCENTRATIONS BASED ON 40,000 TO 1 DILUTION OF VALUES LISTED IN COLUMN (2).

TABLE 9
 ACCEPTABLE LEVELS OF CONTAMINANTS
 SURFACE SOIL AND SEDIMENT
 NEWPORT DUMP SITE
 CAMPBELL COUNTY, KENTUCKY

INDICATOR CHEMICAL	ACCEPTABLE LEVEL OF CONTAMINANTS (MG/KG)	BASIS
ARSENIC	14	BKGD
BARIUM	200	BKGD
CHROMIUM (TOTAL)	24	BKGD
NICKEL	61	BKGD
BENZO(A)PYRENE	1.00	INGESTION
TOLUENE	0.014	BKGD
PCBS	2.7	INGESTION

BKGD MAXIMUM OBSERVED CONCENTRATION IN OFFSITE BACKGROUND SOIL OR SEDIMENT SAMPLES

INGESTION CONCENTRATION CALCULATED BASED ON 10^{-6} RISK OF CANCER FROM INGESTION OF SOIL. SEE
 APPENDIX M.